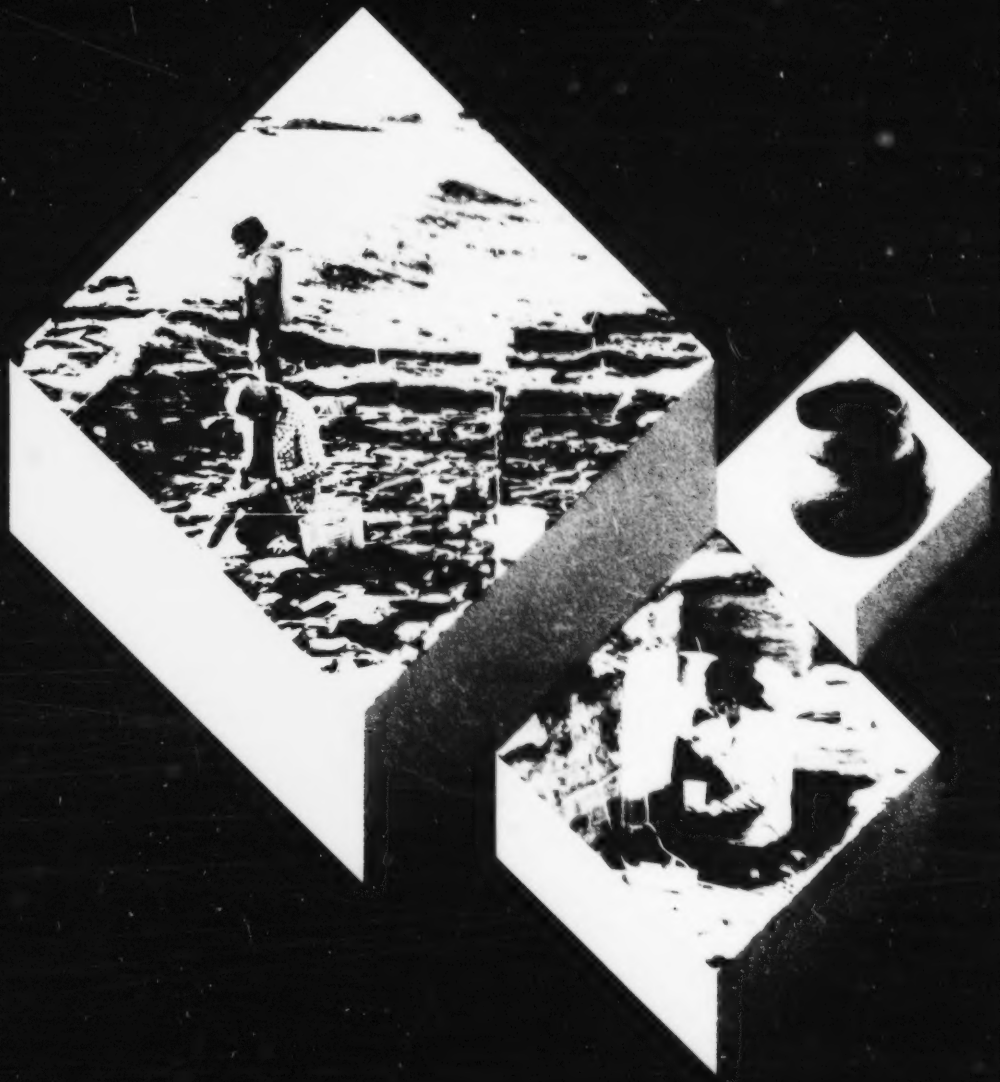
ARCHAEOLOGY IN QUÉBEC



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ARCHAEOLOGY IN QUÉBEC

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How can a society learn about its past and the evolution of the various groups that succeeded one another throughout its history?

In general, historians reconstruct the past with the help of written documents. Ethnologists make use of an additional tool — the testimony of those able to remember and describe ancestral traditions.

But what happens when written records are lacking and there is no one left to relate past events? And even when such sources are available, can they be considered totally reliable?

When a society wants to learn about its history prior to the age of writing or to better understand its more recent past, it may have recourse to a discipline that attempts to describe, explain and understand the behavioural evolution of previously existing peoples through their material remains: this discipline is known as archaeology.

Although these remains are sometimes visible on the surface of the ground, they may also be buried or even under water. They may consist of features — house remains, hearths, refuse heaps, burials, or caches — or of artifacts — objects produced or modified by man and made of materials such as stone, wood, bone, glass or metal. They may also include ecofacts: human, animal and plant remains.

Archaeologists are as interested in a stone flake as in a grain of cereal, a potsherd or a post mould. On only a few rare occasions are material remains intact and archaeologists must often reconstruct the past on the basis of fragmentary evidence, a task requiring considerable patience.

(photograph: Marc Laberge, Vidéanthrop inc.)

Archaeological research on an 18th-century fishing site. Brador, Basse-Côte-Nord.

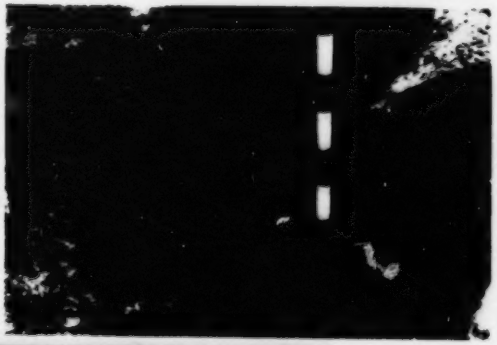
The place at which an archaeologist finds such remains is called an archaeological site. It may be the spot where a hunter stopped to make an arrowhead, several families camped to fish, or colonists settled to exploit the resources of the surrounding land. Whatever the case may be, it is generally a place where man has had an impact on his environment.

An archaeologist can understand and interpret a site by studying the spatial distribution of remains and their often subtle and fragile relationships with the environment. If a site has been disturbed or destroyed, its interpretation is difficult and even impossible.

Each site is different and unique, since it is the result of a combination of particular events. Not only one but several sites must be investigated in order to understand the factors that have shaped human history.

Archaeologists examine all elements that might provide information on the way in which an area was occupied and used in the past: the sites people frequented, the routes they followed, the animal species they captured, the mineral and plant species they looked for and exploited, and the subsistence patterns they adopted. Archaeologists study changes in material assemblages and try to determine where, when, how and why such changes took place. In this way, they help to better our understanding of variations in human behaviour from one period and place to another.

Iroquoian pottery vessel found in a pit. Mandeville site, Tracy.



(photographs: Marc Laberge, Videanthrop inc.)

Bone fragments. Brador, Basse-Côte-Nord.

(photograph: City of Montréal)

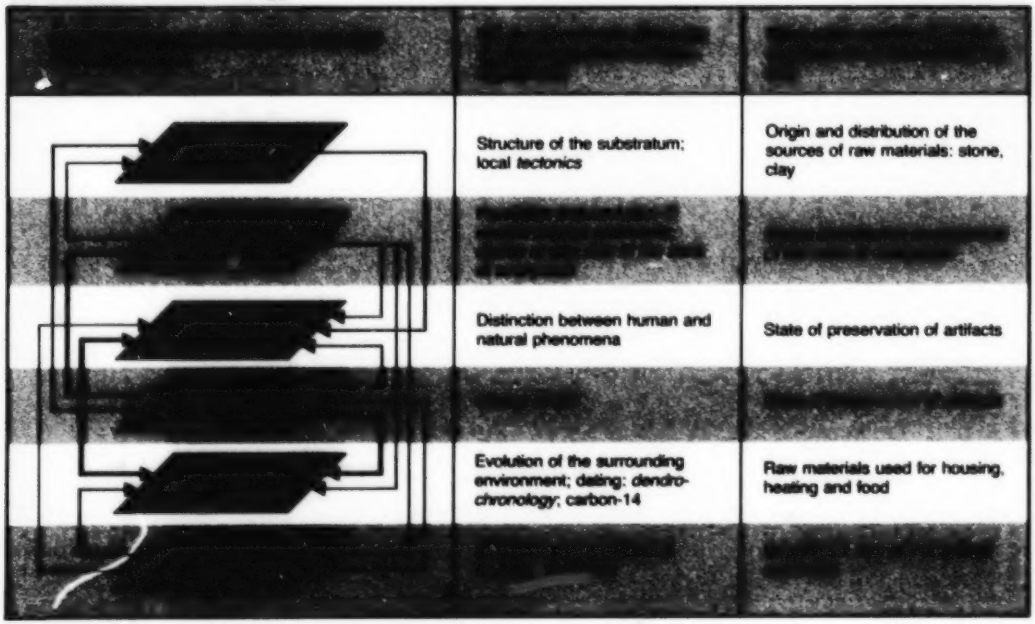
Urban archaeological excavations providing evidence of intensive occupation from the 15th century up to the present. Old Montréal.

A MULTIDISCIPLINARY APPROACH

As techniques become more sophisticated and research in such fields as the humanities, the earth sciences and the physical sciences contributes to our present store of knowledge, archaeology is in turn able to shed light on problems that were previously insoluble. In view of the growing need for archaeologists to collaborate with other specialists — including geomorphologists, botanists, zoologists, historians, ethnologists, computer scientists, and physicists — a multidisciplinary approach is becoming more and more prevalent in archaeology.

Since human activities are largely determined by the environment in which they take place, archaeologists turn to other disciplines concerned with natural phenomena and their interpretation. By employing certain methods and techniques developed in these fields, they are able to reconstruct the environment of the period and site under consideration: its topography, *unconsolidated deposits**, vegetation, fauna, the climate in which man lived and to which he had to adapt. The study of this physical framework, the paleoenvironment, is called geoarchaeology, a discipline that draws largely on *geomorphology*, *geology*, *pedology* and *palynology*. Since archaeologists consider all the elements found on an archaeological site as sources of information, they analyze mineral (*petrography*), plant (*botany*), animal (*zoology*), and human (physical anthropology) remains.

Major environmental disciplines: schematic representation of their interrelationships and their contribution to archaeology.


Structure of the substratum; local tectonics
Origin and distribution of the sources of raw materials: stone, clay
Distinction between human and natural phenomena
State of preservation of artifacts
Evolution of the surrounding environment; dating: dendrochronology; carbon-14
Raw materials used for housing, heating and food

* Italicized terms are defined in the glossary.

The physicochemical techniques developed by the sciences listed above make it possible to reconstruct the former plant, animal and mineral environment, and to comprehend its evolution and variation at the regional level. They also help to reveal the main subsistence patterns, the site's occupation period, the materials used and, sometimes, their origin.

To study an area more efficiently and to better understand the archaeological site chosen for excavation, an archaeologist uses geophysical and geochemical survey techniques that allow him to detect the presence of structures buried beneath the ground. Such features exhibit measurable differences in their electrical resistance, chemical composition and temperature, and may even cause distortions of the Earth's magnetic field.

Finally, the dating of remains is of fundamental importance. Increasingly sophisticated physicochemical techniques are used for this purpose.

However, human groups do not evolve within the physical environment alone; many other factors also affect social behaviour. Since archaeologists are concerned, above all, with the formation and development of societies, they must consider material remains and environmental data in an anthropological perspective. Such an approach is used by historians in examining written and iconographical documents, and by ethnologists in studying human behaviour and the everyday objects that reflect such behaviour.

A few dating techniques.

Carbon-14	Organic materials (charcoal, turf, bone)	From 200 to 40 000 years ago	Samples often contaminated
Archaeomagnetism	Kilns Baked clay	Up to 8 000 years ago	Calibration; number of samples needed; preparation of samples
Obsidian hydration	Obsidian artifacts	Up to 35 000 years ago	Calibration
Dendrochronology	Wood	Up to 7 500 years ago	Fragmentary information at the regional level

(photograph: City of Montréal)

Electromagnetic survey equipment:

1. *graphical recording device*
2. *magnetic recording device*
3. *receiver*
4. *transmitter*

AN EVER-CHANGING SCIENCE

A tool corresponds first and foremost to a particular function; however, it cannot be separated from the action that produced it nor from the traditions and rituals of the society in which it was made. Archaeologists are not only interested in traditional methods of producing and using tools, but also experiment with tool-making procedures. Such efforts have given rise to another field of research known as experimental archaeology, whose purpose is to reconstruct ancient techniques.

Archaeology has devised its own methods of description, classification and interpretation in order to isolate the significant features of an object. It has developed a special descriptive vocabulary and set up *typologies*; it also uses statistics and computer science.

Archaeologists have access to interpretation methods allowing them to determine the relationships that existed between the objects discovered on a site and to verify certain hypotheses. Interpretation is possible, however, only in cases where archaeological methods and techniques have been properly applied, in accordance with appropriate procedures.

French wine bottles from the 1720-1759 period. Place Royale, Québec.

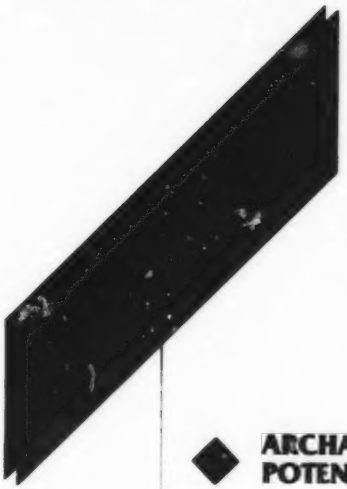
Coarse earthenware cups made in England during the second half of the 18th century. Place Royale, Québec.

Pottery vessel in the St. Lawrence Iroquois tradition possibly dating from the 15th or the 16th century. Chicoutimi region.

Chert arrowheads from the Early Woodland period (around 3 000 years ago). Pointe-du-Buisson, Melocheville.

(Clermont and Chapdelaine, 1982, p. 60)

(photograph: Recherches amérindiennes au Québec)



ARCHAEOLOGICAL research may be divided into four stages: archaeological potential studies, field survey, excavation and analysis of data. In addition, archaeologists are sometimes required to monitor civil engineering work in the course of urban, energy or other development projects. To monitor such work, they must evaluate the archaeological potential of the site, be present during the work and be prepared to conduct an emergency excavation if necessary. The scientific results of each of these stages are interpreted and then communicated to the public in a variety of ways.

ARCHAEOLOGICAL POTENTIAL STUDIES

Archaeological potential studies are done prior to any major fieldwork and are necessary for well planned research programs; they consist in gathering basic data on a specific area within a given region. These studies make it possible to delimit and map priority zones which have archaeological potential, that is, which contain or are likely to contain archaeological sites.

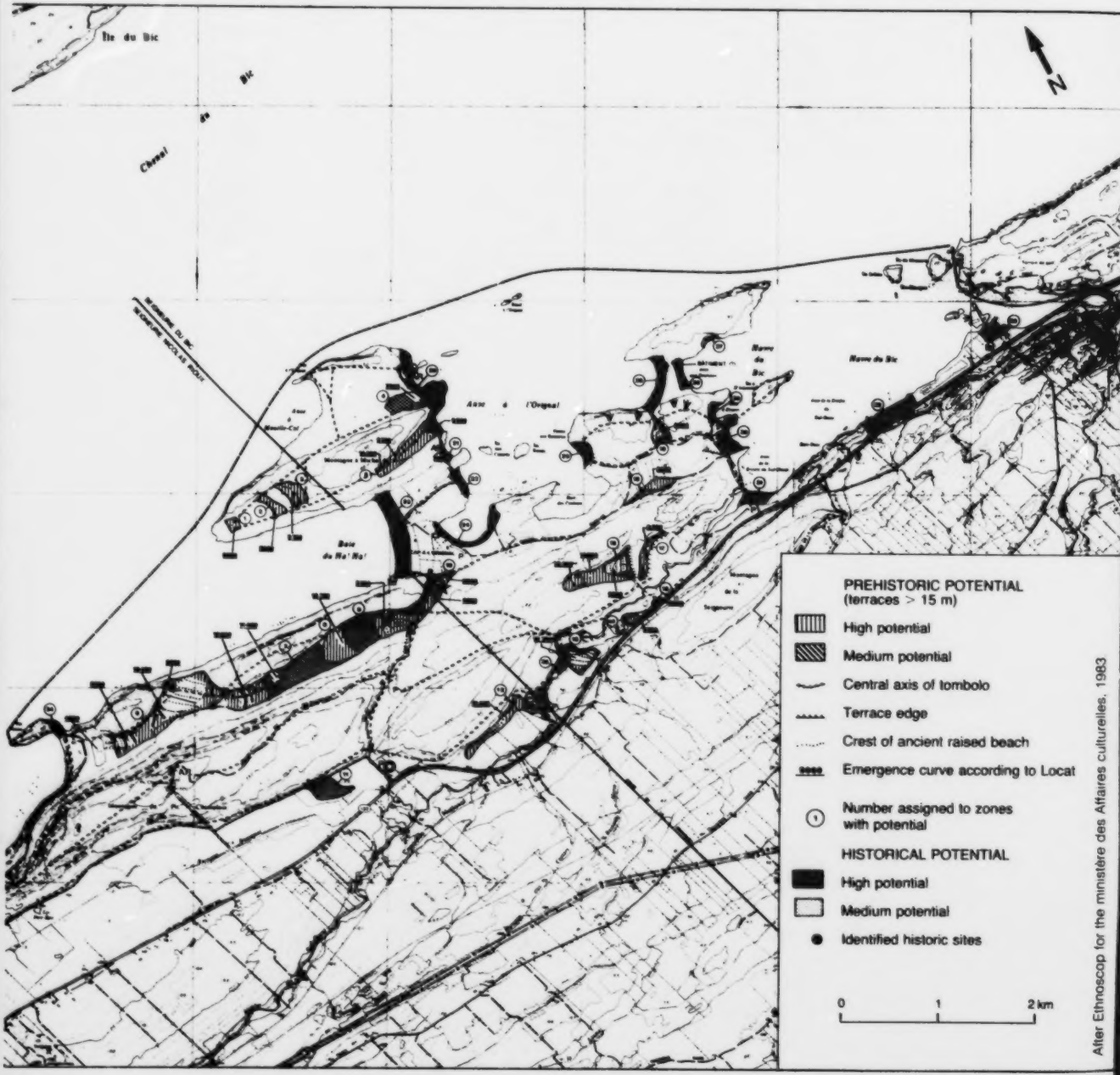
In order to evaluate the potential of a site, an archaeologist first defines selection criteria, which he then classifies and compares. These criteria are of an environmental, socioeconomic, cultural and technological nature.

In addition to evaluating the data gathered, an archaeological potential study must consider all variables in a multidisciplinary perspective, drawing on such disciplines as geology, geomorphology, ecology, biology, history, ethnology, architecture, and so forth. Such an approach makes it possible to determine whether or not the area under study is likely to contain archaeological sites.

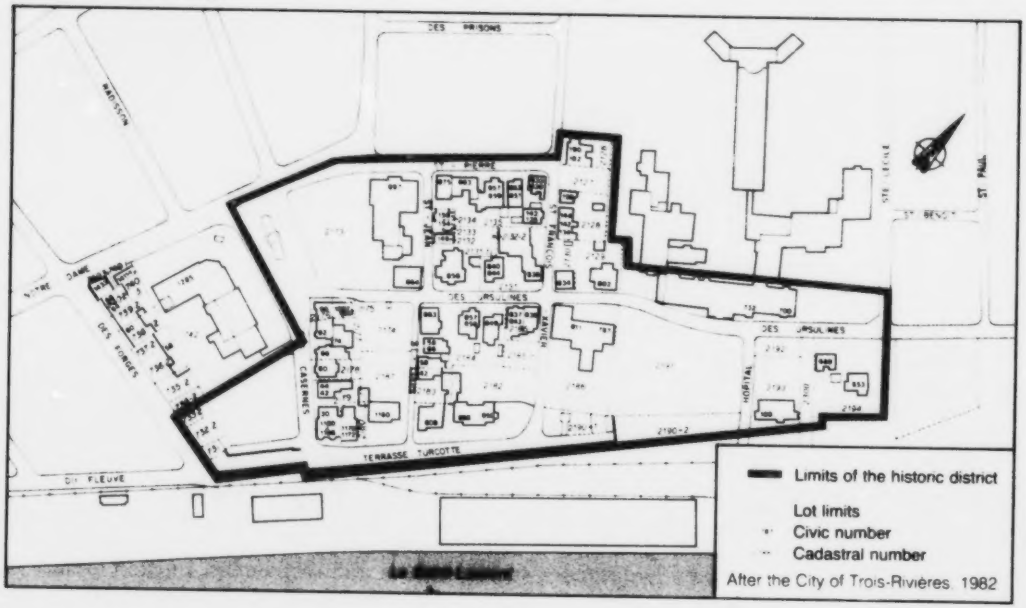
It is often necessary to visit the area in question in order to verify the relevance of the criteria selected, to familiarize oneself with the terrain, and to develop a strategy for subsequent work. It is sometimes essential at this stage in the research to consult local informants.

Since archaeological potential studies are carried out prior to field surveys, they enable researchers and administrators to understand the scope of the multidisciplinary research to be done, to choose the zones to be surveyed and the strategy to be adopted, and to determine the cost of pursuing the work.

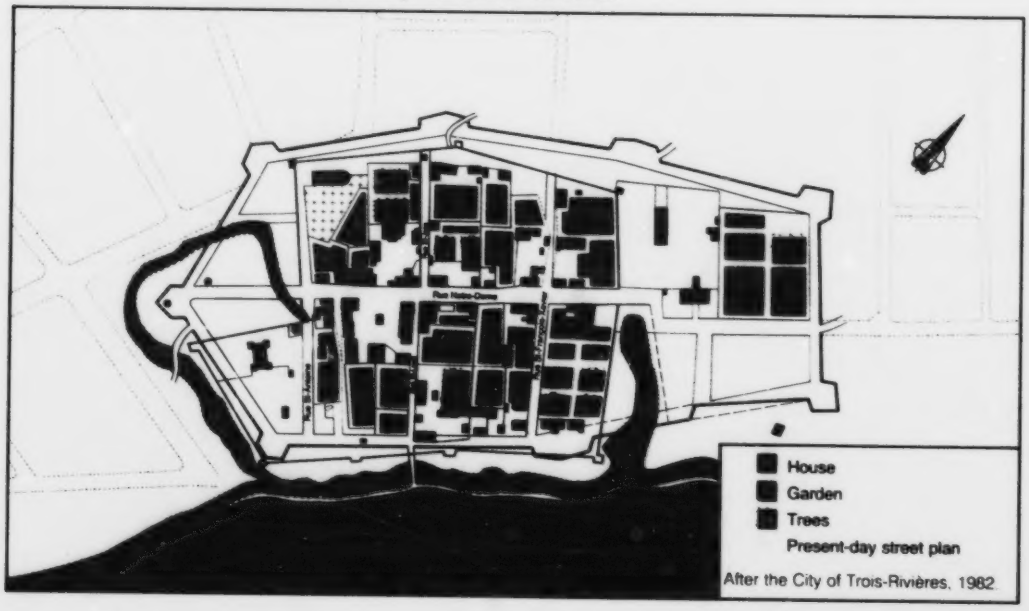
Archaeological potential map. Parc du Bic, Bas-Saint-Laurent.



Trois-Rivières today.



Trois-Rivières in 1704 after the plan by Levasseur de Néré.



SURVEY

Surveys constitute the second stage of archaeological research. Fairly technical in nature, they are aimed at locating and evaluating sites within zones that have archaeological potential. It is sometimes necessary to use sampling techniques since time, personnel, and financial and technical means are often limited in relation to the size of the area to be studied.

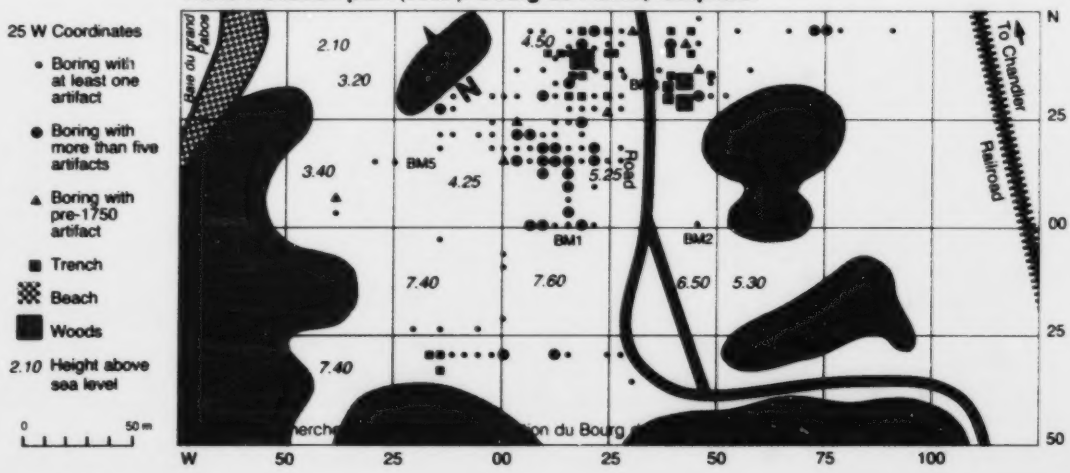
Since an archaeologist looks for all possible signs of human occupation, he first thoroughly examines the surface of the ground; he then digs *test pits*, for part of the archaeological information is often buried and therefore not visible. With time, layers of various material are deposited, eventually covering the traces of human activity. In principle, these layers are deposited one on top of the other; the lower deposits are therefore older and the higher ones more recent, except when they have been disturbed by natural phenomena or by animal or human activity. The role of an archaeologist is to unravel the history of this accumulation or stratigraphy. Depending on the area studied, test pits may vary from a few centimetres to a few metres deep.

During the survey stage, archaeologists evaluate rather than excavate the sites they discover. By digging test pits, they are able to locate sites precisely and to make observations on their environment, surface area, contents and state of preservation. On the basis of their findings, archaeologists can put forward hypotheses on the nature and distribution of the human populations that occupied the area under study. In addition, they usually make recommendations for future work. They may propose emergency excavations on endangered sites, plan excavation programs for large zones within the framework of long-term research projects, or in cases of extreme urgency, recommend the monitoring of work already under way or about to begin.

Drawing a stratigraphic section. Chicoutimi trading post.

(photograph: Marc Laberge, Vidéanthrop Inc.)

Trench location plan (detail). **Bourg de Pabos, Gaspésie.**



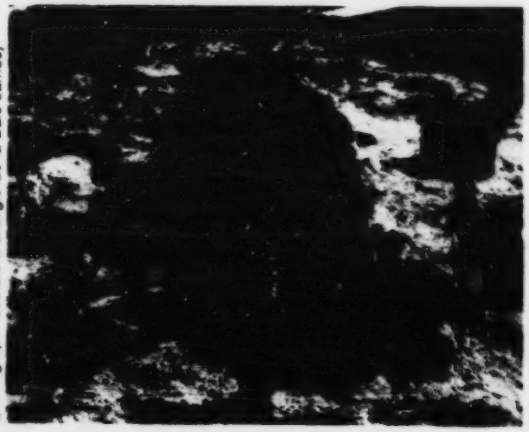
EXCAVATION

Excavation, or the third stage of archaeological research, is designed to attain specific objectives, such as the constitution of a unique set of data, accessible to both researchers and the general public. Since archaeologists veritably dissect nonrenewable information, any error on their part is irreversible. Their task is therefore difficult and delicate, and all excavations must be rigourously planned. An archaeologist must choose the methods and techniques best suited to reaching specific goals and implement all measures necessary to their attainment. His approach is dynamic and requires constant readjustment. He must continually ask himself which excavation techniques and tools are most appropriate and which recording methods should be used; he must choose the type of *grid* to be laid out, the kind of equipment to be employed and decide which specific areas should be excavated and how large the trenches should be. In short, an archaeologist must constantly adapt to the constraints and peculiarities of the site he is studying.

An archaeologist sometimes decides to combine various methods of excavating occupation layers. Depending on the spatial distribution of remains, he may decide to strip small areas horizontally, systematically recording all finds in relation to a three-dimensional system of coordinates; or he may opt for a combination of horizontal and vertical digging over large areas using parallel trenches.

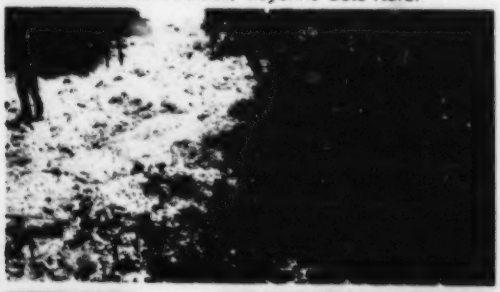
Rigourous sampling and recording methods must be employed in order to keep track of the remains uncovered during all stages of the excavation. Such techniques allow the site to be reconstructed later in a laboratory. What does a particular layer represent in terms of the history of the site? Is it related to its abandonment, to a period of occupation, or to construction, demolition or fill activities? Are there any house remains? Of what type? From what period? Do they enclose special zones of activity?

Hearth area uncovered on a prehistoric site (dating from around 1350 years ago). Rivière La Grande region, James Bay.



(photograph: Société d'énergie de la Baie James)

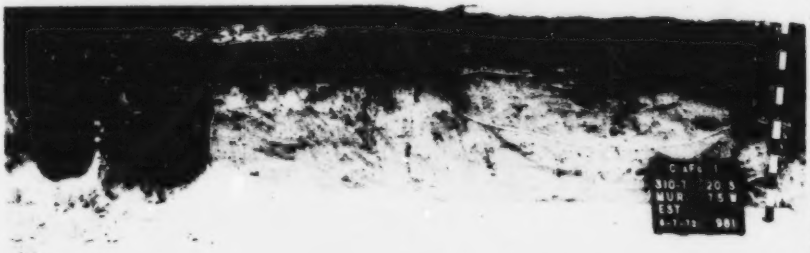
General view of a prehistoric site before and after excavation. Rivière-au-Bouleau, Moyenne-Côte-Nord.



All archaeological remains, whatever their nature, should be removed with care and kept under good conditions; otherwise, much important information might be lost forever. Certain objects and samples that are likely to deteriorate and even disappear as soon as they are uncovered should be treated and consolidated. Organic materials and metal objects often require special treatment before they can be removed from the ground. They are so fragile that they must be consolidated with plaster or plasticizing agents. Once they have been taken out of their natural environment, they must be kept under special conditions where temperature and humidity are controlled.

Once an archaeologist has collected all the material visible to the naked eye, he then tries to recover fragments that might have been missed on account of their small size. For this purpose, he uses *screening* and, sometimes, *flotation* methods on soil samples taken from the site. These operations allow important archaeological elements to be separated from the surrounding *soil matrix*: bone fragments, seeds, pieces of charcoal, tool fragments, and so forth.

Screening earth from an archaeological site. Grandes-Bergeronnes, Haute-Côte-Nord.



(photograph: Marc Laberge, Vidéanthrop Inc.)

Stratigraphic profile on an Iroquoian site showing a hearth area to the right, a post mould in the centre, and two pits to the left. The occupation layer is darker in colour. Mandeville site, Tracy.

Since some of the materials contained in soil are microscopic, archaeologists take a number of samples which, when subjected to various chemical and physical analyses, help to answer many questions. For example, such samples provide clues to the origin of deposits and to the way in which they accumulated and evolved. They are also useful in dating archaeological remains, understanding climatic change, and detecting the presence of plant and other organic materials such as bone, flesh, skin and charcoal. In some cases, they may be used to detect special zones of activity within a site.

In general, recording consists in noting observations by means of plans, stratigraphic sections, photographs, films, notes, and drawings. It may also involve the moulding of certain remains that are particularly interesting or fragile: stratigraphic profiles, occupation levels, tracks or impressions.

Recording methods must be simple, thorough and precise in order that sites may be reconstructed as accurately as possible in a laboratory. The quality of analysis and interpretation is dependent on sampling and recording techniques.

Recovering a soil profile using rubber latex. Rivière Blanc-Sablon, Basse-Côte-Nord.

ANALYSIS

Analysis is done in a laboratory. An archaeologist is faced with a large amount of excavation material — artifacts, ecofacts, architectural elements, samples, notes, plans, photographs, and so forth — which he must assemble and classify before he can begin to interpret his site.

The term archaeometry is used to describe the physicochemical methods widely used by archaeologists in analyzing their finds. With these techniques, chronological, technical and cultural information can be obtained about the people who made and used the materials studied. By analyzing plant and animal remains such as seeds, bones, shells, pollen, and wood, archaeologists can gather essential data on the lifeways (diet, technology, etc.), living conditions and environment of the people under study. Physicochemical methods can also be used to analyze inorganic materials, such as stone and metal, which were used to build houses and to make tools, weapons and ornaments.

With the help of various dating techniques, archaeologists are able to determine the age of the materials collected and therefore to date the occupation layer in which they were found. Even such substances as sand, gravel and construction debris, which can occur in archaeological deposits, may be useful dating tools. Once an archaeologist has obtained all the results of his physicochemical analyses, he uses statistical methods to process, organize, interpret and synthesize them. In so doing, he attempts to define the technological, environmental, economic, cultural and chronological characteristics of the site under study in order to reconstruct the life of the people who lived there.

Several sites may be studied and compared within the same region. On the basis of the information gathered, it is possible to characterize the various groups or peoples that occupied the area at different periods in the course of its history. Such studies of human occupation shed light on the various stages and factors involved in social evolution and provide a better understanding of the human race.

Once this new scientific information has been interpreted by professionals, it is made available to researchers and the general public alike. It is disseminated in the form of research reports, articles, guides, brochures, exhibitions, films, reconstructions, or heritage tours. However, its dissemination and development is impossible without the collaboration and initiative of local, municipal or other organizations, aware of the value of their cultural heritage.

Steps in the treatment of archaeological material:

Washing of artifacts
Numbering
Reconstruction
Measuring
Drawing

AS MENTIONED above, history and ethnology can be of invaluable assistance to archaeologists in reconstructing the past. However, archaeology is more helpful than either of these two disciplines in dealing with periods for which there are no written records or whose oral traditions have been lost. This statement applies to the "prehistoric period". Québec prehistory covers thousands of years and is thought to have begun approximately 10 000 years ago. It corresponds to the occupation period prior to the arrival of Europeans (16th and 17th centuries), when Québec was inhabited by the ancestors of the Amerindians and the Inuit.

As for the historic and contemporary periods, they include occupations by both Native (Amerindian and Inuit) peoples and Euro-Quebecers. The historic period covers approximately four centuries, from the arrival of the white man up to the end of the 19th century, while the contemporary period begins with the 20th century.

THE FIRST INHABITANTS OF NORTHEASTERN AMERICA

Approximately 50 000 years ago, as a result of a general drop in temperatures throughout the Earth, the northern portion of the American continent was covered by enormous ice sheets. This period, known as the Wisconsin glaciation, was already thousands of years old at that time. While America was still uninhabited, the warmer parts of Asia, such as Siberia, abounded in wildlife and were occupied by hunting peoples.

Arrival of man in North America via Beringia between 20 000 and 40 000 years ago.

During this period, Alaska and eastern Siberia looked very different from what they do today. Instead of being separated by an ocean, these two land masses were linked by a land bridge, known as Beringia, measuring 1 500 km wide from north to south.

Approximately 40 000 years ago, Asian hunters in pursuit of game entered Alaska by way of Beringia, totally unaware that they were the first human beings to set foot on the American continent. Soon, however, their progress was checked by glaciers near the Mackenzie river valley. At least, this is the generally accepted hypothesis.

Some 10 000 years later, the climate became warmer and the glaciers began to melt; the level of the ocean rose and Beringia disappeared beneath the surface of the water.

As the enormous ice sheet melted, it divided in two, freeing a corridor to the east of the Rocky Mountains. Wildlife penetrated this corridor and small groups of hunters soon followed suit.

The climate remained warm for 10 000 years, then colder temperatures returned. Once again, the corridor was obstructed by a glacier and Beringia re-emerged.

Thirteen thousand years ago, history repeated itself, and hunting groups entered Alaska anew; other bands were already living in the area south of the glacier. Some of these groups occupied the extreme northwestern part of America, while others migrated eastward as far as Nova Scotia, in the wake of the retreating glacier, or southward as far as Tierra del Fuego.

Now that the American continent was ice-free, it was gradually peopled by nomadic groups, whose population density varied from one region to another. According to archaeologists, these groups are the ancestors of present-day Amerindians and Inuit.

◆ THE EARLY INHABITANTS OF QUÉBEC

The St. Lawrence plain emerged when the glaciers melted 11 500 years ago. It was then flooded by a marine transgression, known as the Champlain Sea, which had penetrated the St. Lawrence River. Similar flooding also led to the formation of the Goldthwait Sea in the Gulf of St. Lawrence, the Laflamme Sea in the Lac-Saint-Jean region, the Tyrrell Sea in the James Bay area and the Iberville Sea in the vicinity of baie d'Ungava. As the continent rose, these marine transgressions retreated, gradually making way for a new environment.

Peoples from the west and the southeast, known as the Paleo-Indians, followed the retreating glaciers and soon occupied the area now comprising New York State, New England and Nova Scotia. One of their most characteristic tools was the fluted projectile point called the Clovis point. The large mammals, such as mammoths and mastodons, which these groups hunted became extinct approximately 8 000 years ago.

"Plano"-type arrowhead dating from the late Paleo-Indian period. Objects of this type have been found in Québec.
(illustration: Musée du Bas-Saint-Laurent)

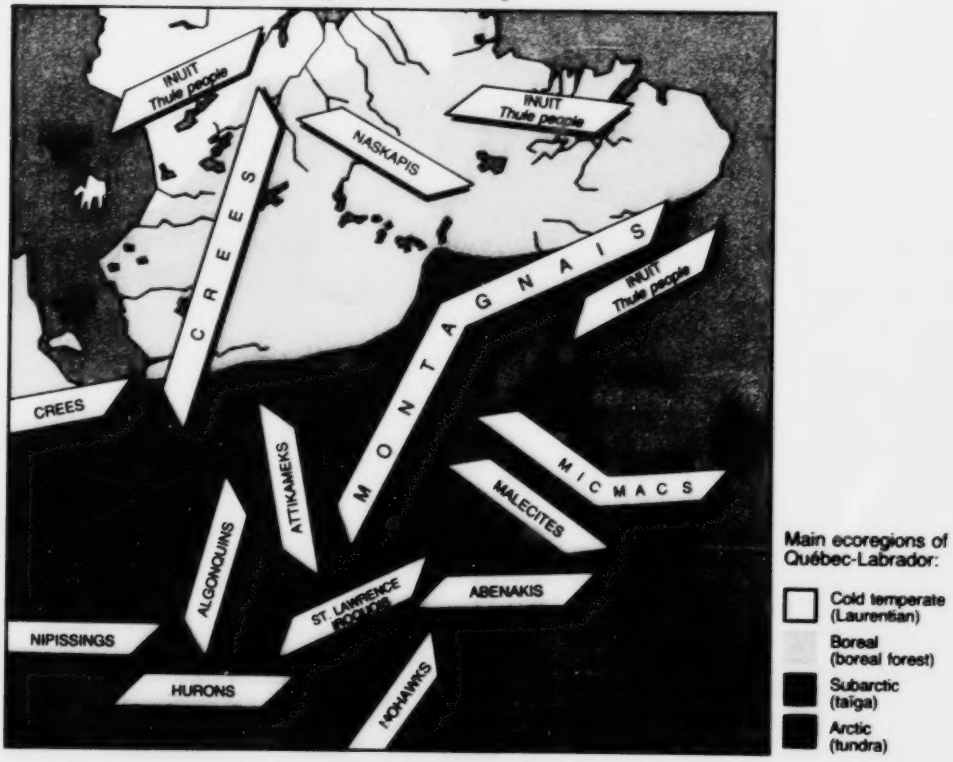
Late Quaternary marine transgressions in northeastern America.

The Ancestors of the Amerindians

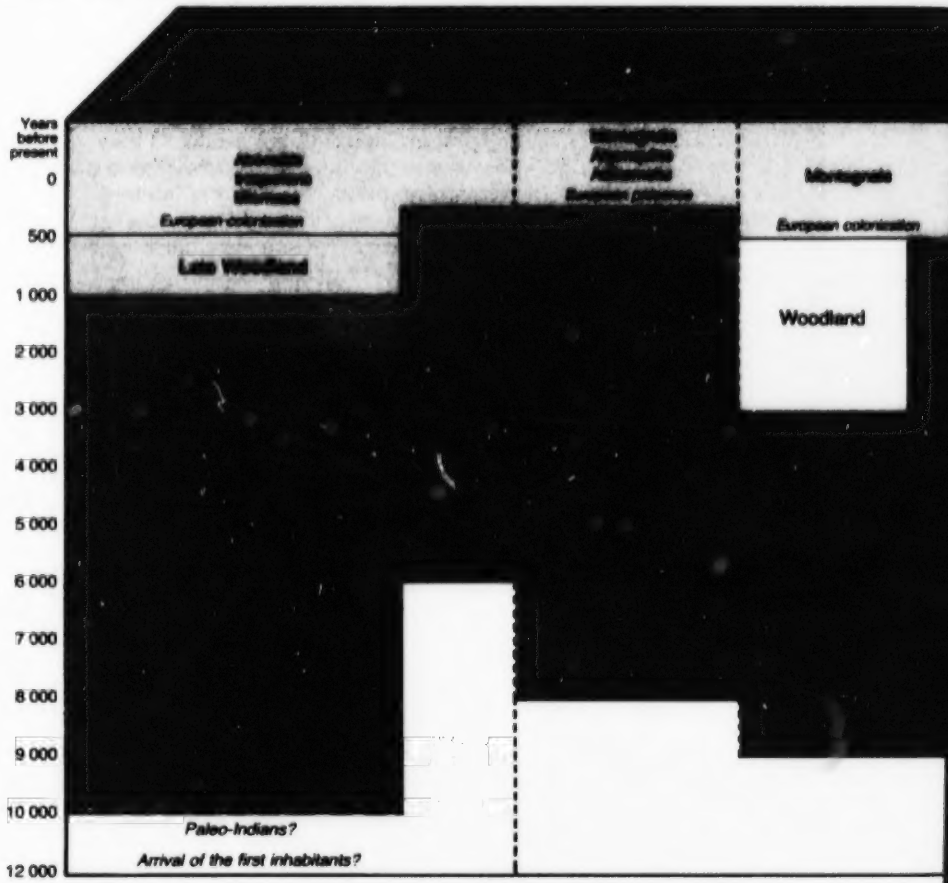
The oldest sites discovered to date in Québec are located on the Basse-Côte-Nord, near the rivière à la Martre in Gaspésie, and on île Thompson near Cornwall in the upper St. Lawrence valley. They date back to between 9 000 and 6 000 B.P., the period associated with the Paleo-Indian tradition.

Between 6 000 and 2 500 years ago, small hunting and gathering groups occupied all parts of Québec, including the Arctic. As they gradually adapted to their respective environments, each group developed distinctive cultural characteristics. To understand the history of these hunters and gatherers, archaeologists must work within specific regions or *drainage basins*. We have attempted to classify the various cultural remains noted in the different climatic zones according to chronological periods. Despite the fact that the following map and table are based on this somewhat general and approximate classification system, they nonetheless provide very useful global frames of reference for Amerindian and Inuit prehistory.

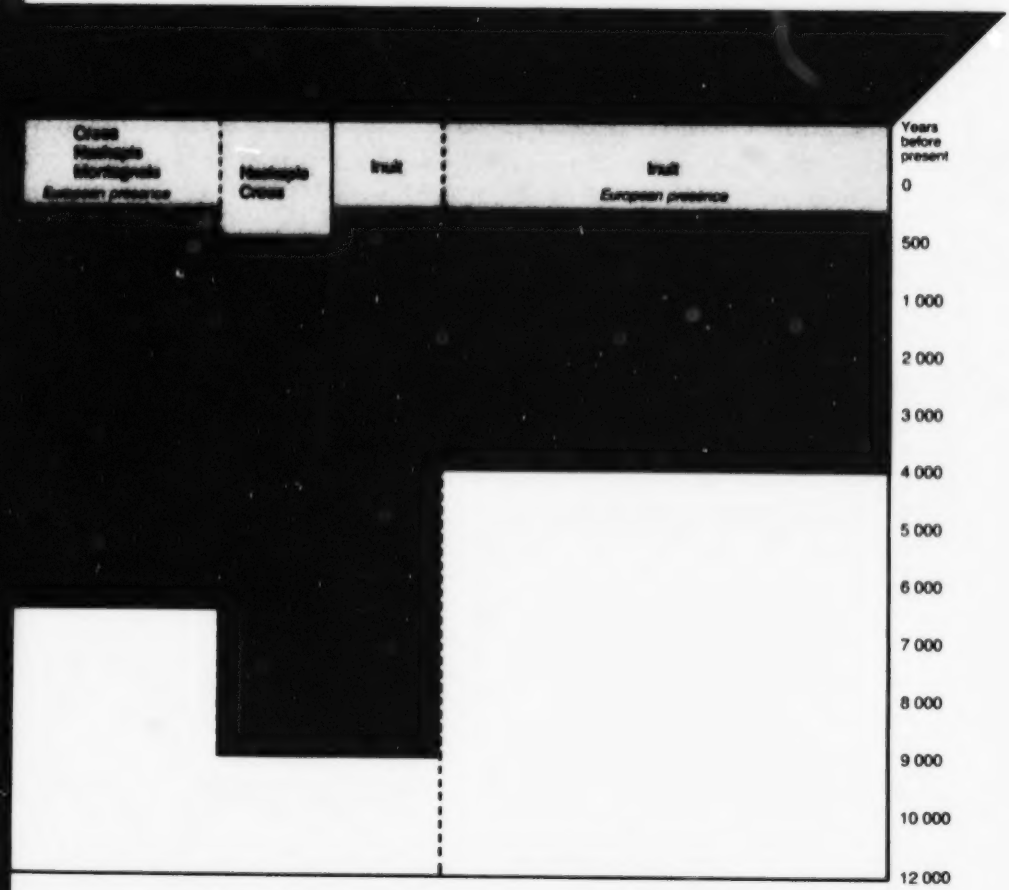
Map showing the distribution of Native peoples within the main ecoregions of Québec and Labrador during the 16th century.



Main Amerindian and Inuit cultural remains within the major ecoregions of Québec.

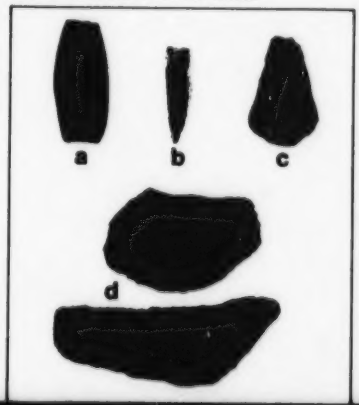


Approximately 6 000 years ago, the hunting groups began to adapt to their various environments. Their favourite prey were the big Cervidae, although other mammals and fish were also part of their diet. On the Côte-Nord and the Gaspé coast, they primarily hunted marine mammals. Their tools were made of stone, bone, antler and native copper. Gradually, trade networks grew up between the different hunting bands. The period in which they lived is called the Archaic period. Its duration varied widely from one area to another and, in some cases, Archaic traditions lasted until the arrival of the white man. Cultural differences are evident in the shape of the objects and in the type of site found in the various environments inhabited by these people.

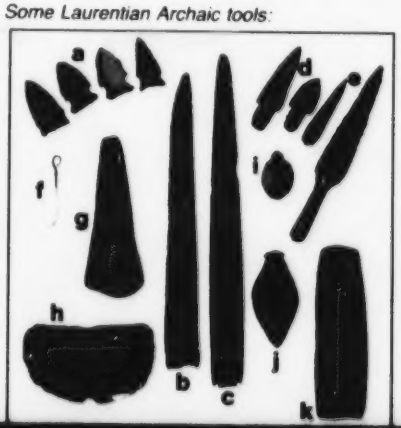


Some Maritime Archaic tools:

a) gouge
b) stem of a bifacial tool
c) chipped-stone axe
d) scrapers



Some Laurentian Archaic tools:



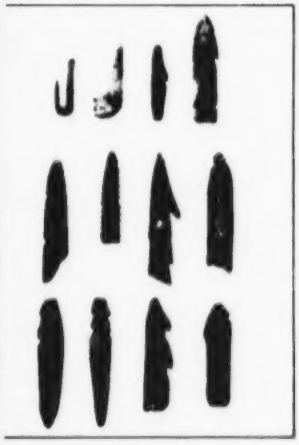
a) projectile points
b) bone knife
c) ground-slate spearhead
d) polished-stone projectile points
e) copper projectile points
f) copper fish-hook
g) copper gouge
h) spear-thrower weight
i) stone abrader
j) net-sinker
k) gouge

(Wright, 1979, p. 28)
(photograph: National Museum of Man)

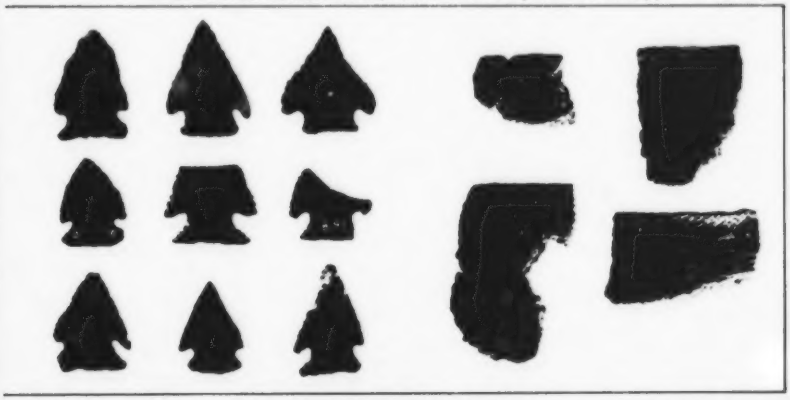
Approximately 2 500 years ago, these groups started diversifying the way in which they adapted to their environment; their culture began to flourish. Innovations from the south such as pottery and corn cultivation were gradually introduced into the St. Lawrence plain. The population rapidly increased, and gathering, which was carried out in addition to hunting and fishing, became a more important subsistence activity.

Around 1 000 A.D., corn, squash, bean and tobacco cultivation became more intensive in the villages of these hunting and fishing groups, who were gradually becoming more sedentary. At the beginning of the 16th century, Cartier discovered Iroquoian farming villages, such as Hochelaga and Stadacona, in the St. Lawrence valley. Their sedentary inhabitants were in contact, however, with other Amerindian peoples whose language, economy and social organization were different from their own.

During this period, nomadic hunters and gatherers continued to live in the Canadian Shield region, Gaspésie and on the Côte-Nord, exploiting the resources of large areas and occasionally encountering the Iroquoian farming peoples of the St. Lawrence valley or even, in some regions, the ancestors of the Inuit. We are still unable to determine the exact nature and extent of the changes brought about by these contacts.



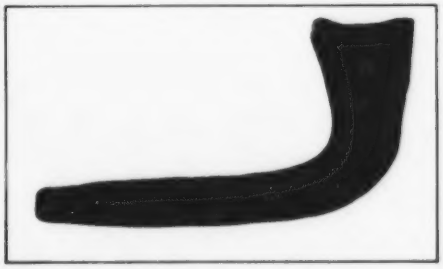
Middle Woodland bone tools, chert points, and pottery from the Pointe-du-Buisson site, Melocheville. (Clermont and Chapdelaine, 1982, pp. 110, 34, 77)



(photographs: Recherches amérindiennes au Québec)

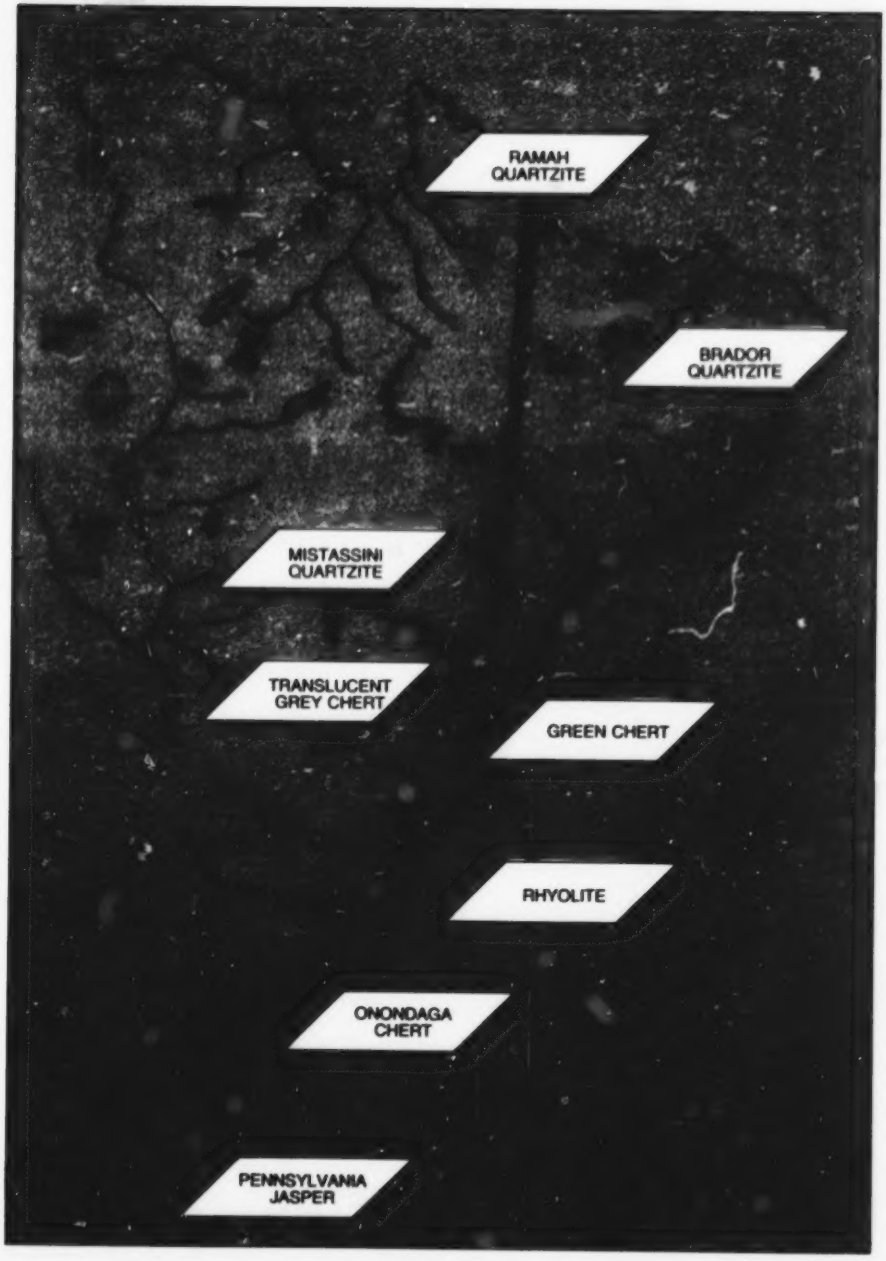
Iroquoian potsherd, Rivière La Grande, James Bay.

(photograph: Société d'énergie de la Baie James)

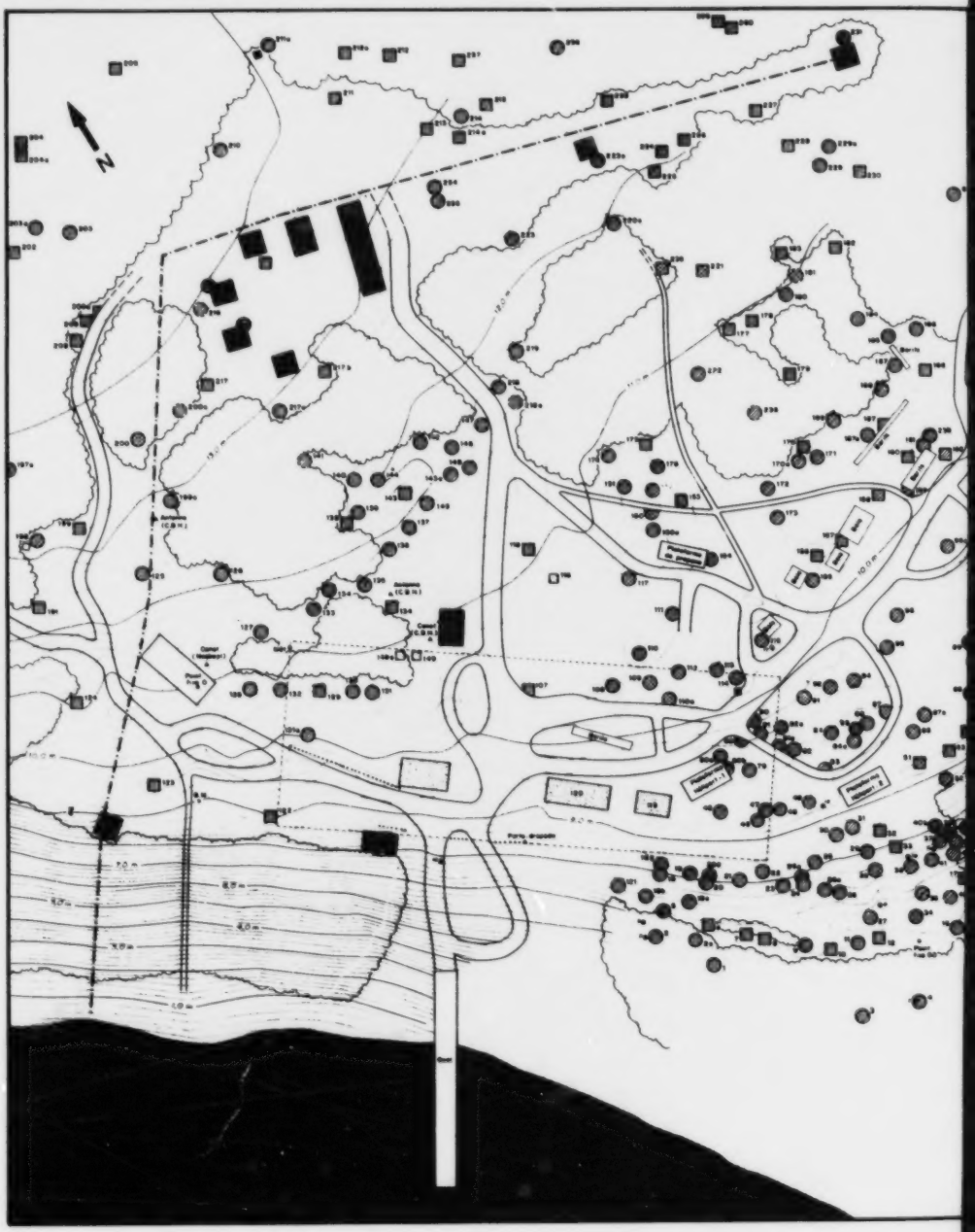


Iroquoian clay pipe. Chicoutimi trading post.

Sources of the raw materials used to make the tools found on the Chicoutimi trading post site.

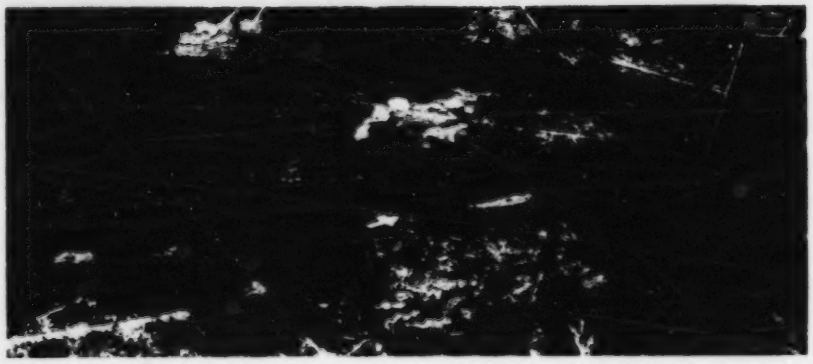


Archaeological survey map (detail). **Fort McKenzie, Nouveau-Québec.**



Very few sites discovered to date provide evidence of contact between Amerindians and the first white men to inhabit Québec during the 16th and 17th centuries. Similarly, archaeologists have identified only a small number of Amerindian sites dating from the historic period, that is, from the 17th to the 19th century, a period marked by tremendous changes in the lifeways of Amerindian peoples. The white man's presence denied them access to the St. Lawrence route, entailing migrations that not only transformed their trade networks, but also drastically reduced their population. It has been estimated that while the Native population of Québec was 40 000 around the year 1600, some 300 years later, there were only 15 000 Amerindians left. According to these statistics, their population had decreased by 62 percent! The arrival of the white man modified the way in which the territory was occupied; however, archaeology has still not provided us with a full understanding of this phenomenon.

Recently, archaeological research has been done on certain Amerindian sites dating from the contemporary period; in addition, hundreds of sites have been inventoried in the James Bay area, central Québec and on the Côte-Nord.



Excavation of a recent fall camp (mitshuap) in the vicinity of the LG-4 reservoir, James Bay.

(photographs: Société d'énergie de la Baie James)

The Ancestors of the Inuit

Hunting bands, in pursuit of more abundant game, migrated from Siberia and possibly the eastern Arctic, occupying the coastal zones of the Québec Arctic, Labrador and the Basse-Côte-Nord between 3 000 and 4 000 years ago. Archaeologists have called these hunters the Tunnit or Paleo-Eskimos: the Pre-Dorset and Dorset peoples. These nomadic groups exploited not only coastal resources such as seal, but also inland ones such as caribou. Much evidence of their activities has been found in the form of house remains, carved and engraved objects, and fragments of weapons and tools made of stone, bone, ivory and antler.

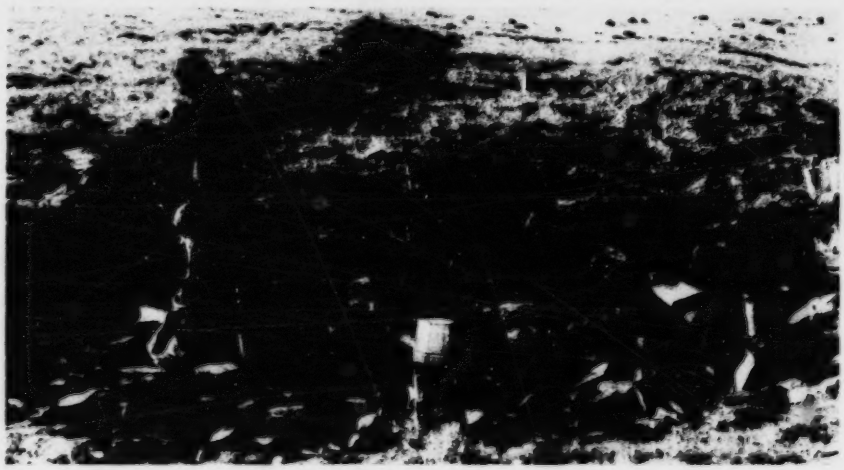
Ivory figure dating from the Late Dorset period. Baie de Diana, Nouveau-Québec.

A second migration began around 1 000 A.D. New Mongoloid groups of seminomadic hunters made their way into the eastern Arctic, eventually occupying the area inhabited by the Paleo-Eskimos and bringing with them a culture known as the Thule culture. The disappearance of the Paleo-Eskimos is still not fully understood as it cannot be attributed to any specific causes. The Thule people, who hunted large marine mammals, had developed a technology that was extremely well adapted to the exploitation of marine environments. Like their Dorset predecessors, they hunted in the Gulf of St. Lawrence; remains of their camps have even been found on the Basse-Côte-Nord.

The Inuit, who are the descendants of the Thule people, presently occupy the Québec Arctic and Labrador. Their oral traditions, recorded by explorers, missionaries and merchants from the 17th century onward, have helped to explain the way in which man adapted to the arctic environment.

Chert and quartzite tools from the Late Dorset period. Baie d'Ungava, Nouveau-Québec.

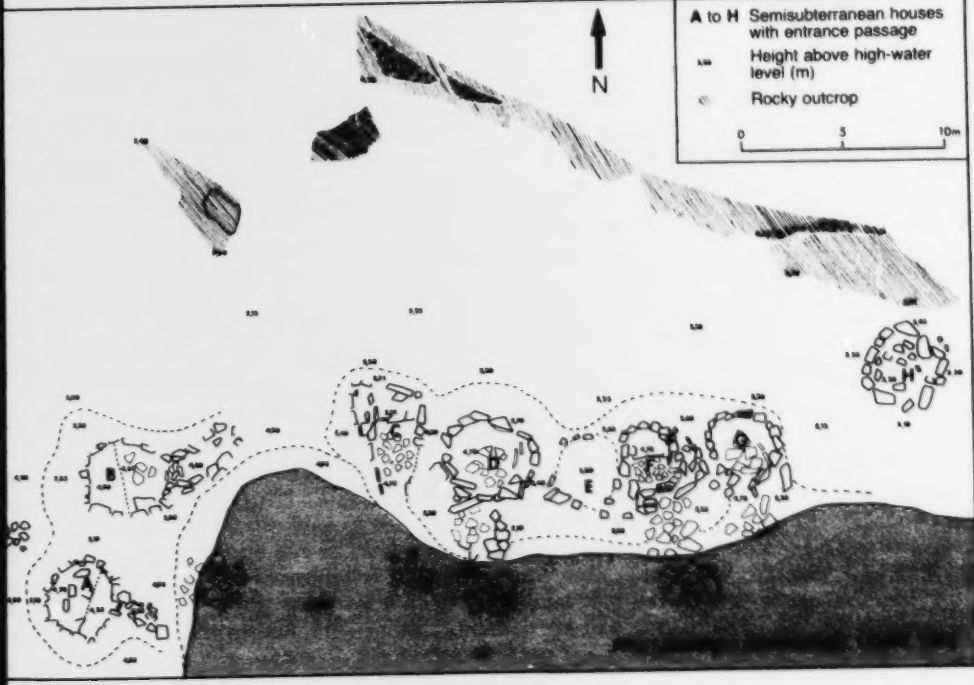
Excavation of a Dorset house. Pointe-aux-Bélugas, baie d'Ungava, Nouveau-Québec.



(photographs: Laboratoire d'Archéologie, UQAM)

Arrival of man in extreme northern America around 4 000 years ago.

Location of dwellings in a Thule village. Île de Pupik, Nouveau-Québec.



Typical Thule culture objects:
(Wright, 1979, p. 106)

a) bone and iron harpoon heads
b) stone harpoon blades
c) barbed bone point
d) bone figure
e) ulu: slate blade and bone handle
f) ivory snow knife
g) soapstone pot
h) bone point

(photograph: National Museum of Man)

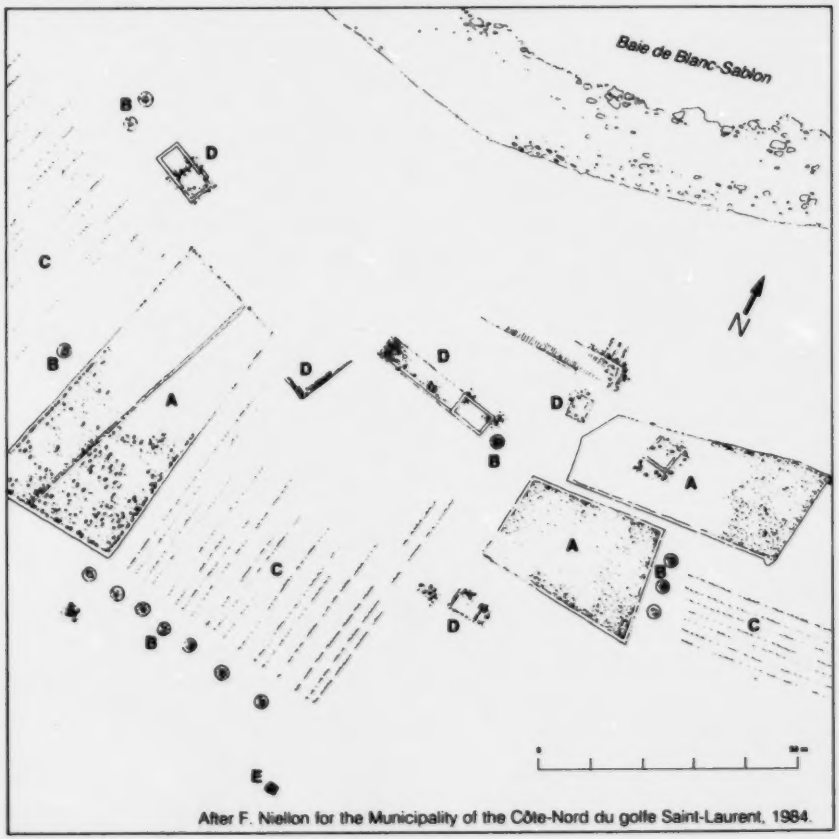
Euro-Quebecers

Archaeology not only delves into the history of the first inhabitants of Québec, the Amerindians and the Inuit, but also studies the past of European colonists and their descendants. The history of Euro-Quebecers covers approximately four centuries and constitutes the field of inquiry of historical archaeology. This discipline draws to a large extent on the data provided by history and ethnology. It studies a variety of sites, including urban centres, rural settlements, and agricultural and industrial complexes. Québec is rich, not only in terms of the number but also the variety of its historical archaeological sites, whose dates range from the early days of exploration in the 16th and 17th centuries up to a much more recent past.

Fish-hooks, net-sinkers and handline weights. Brador site, Basse-Côte-Nord.

(photographs: Musée des Sept-Îles)

Plan of the île à Bois site (detail). **Basse-Côte-Nord.**



A Cod drying platform
B Platform for piling cod
C Flakes
D Building foundations
E Cistern

After F. Niellon for the Municipality of the Côte-Nord du golfe Saint-Laurent, 1984.

In many cases, these sites were occupied for several generations. The remains they contain are often made of resistant materials such as stone, metal or brick, which deteriorate less rapidly than many of the substances that were commonly used in Amerindian camps.

These often complex sites have provided a wealth of information on the lifeways of their inhabitants. Colonists of European origin tended to perpetuate their own traditions in America and to establish more or less permanent settlements in order to exploit their new environment. Thus, within a single site, an archaeologist may find traces of a large variety of activities that either took place simultaneously or else followed one another during the occupation of the zone. Whether urban or rural, or seminomadic or sedentary, the life styles adopted by these colonists have shaped the Québec landscape in distinctive ways, whose origins may be traced with the help of archaeology.

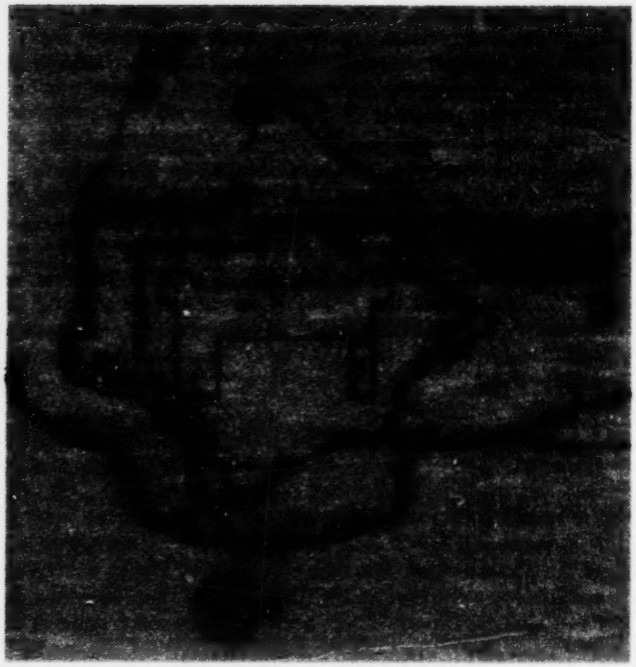
The first Europeans were attracted to the Gulf of St. Lawrence by its abundant marine wildlife. In fact, it has been established that Jacques Cartier was not the first to explore the continent. Archaeologists have uncovered the remains of a Viking settlement dating from around 1000 A.D. at l'Anse-aux-Meadows in Newfoundland; these remains suggest that the north shore of the Strait of Belle Isle was explored by Viking navigators. In addition, both archaeology and history attest to the fact that Normans, Bretons and Basques were already fishing in this area on a seasonal basis at the beginning of the 16th century.

Recent archaeological research in Labrador, Gaspésie and on the Basse-Côte-Nord has focused on the settlement and subsistence patterns of these fishermen. It has led to the discovery of seasonal fishing sites, such as Red Bay in Labrador, that were exploited by Basques between the 16th and 17th centuries.

Research on the Brador site, also on the Basse-Côte-Nord, has provided valuable data on the long-term settlements associated with seal hunting and on the lifeways of the people who inhabited them.

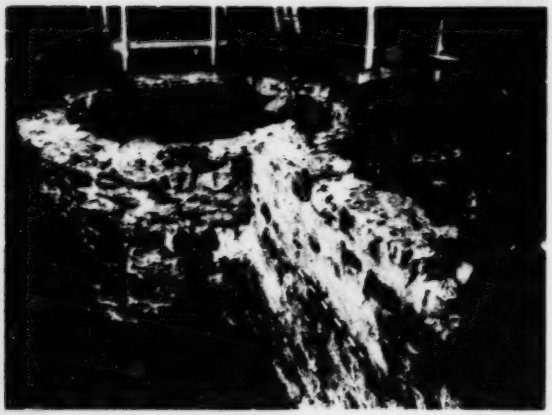
As a result of research on such fishing sites as île à Bois, on the Basse-Côte-Nord, and Pabos, in Gaspésie, information has also been gathered on the various techniques used to process fish on land, and on the way the fishermen lived and adapted in the settlements devoted to such activities.

Although fishing did not entail extensive settlement on land, the exploitation of Québec's abundant fur resources, which were in great demand in Europe at the end of the 16th century, opened the door to colonization. Archaeology has studied many types of trading establishment built at strategic locations from the 17th century onward. Since the Amerindians supplied the colonists with furs, they were regular visitors to these sites. Tadoussac and Chicoutimi are two of the oldest trading settlements. Recent archaeological research on the Chicoutimi site has provided much information on *trade* goods and the way of life of trading post managers and Amerindians.



(illustration: McGill University Library, Department of Rare Books and Special Collections)

Northwest tower of Champlain's second "Habitation" discovered during archaeological excavations in Québec. Its location is shown on Bourdon's plan of 1634.



It was during this period that Champlain built his "Habitation" on the site of what is now Québec City. The remains of both the first and second "Habitations", erected in 1608 and 1624 respectively, have been uncovered in Lower Town.

Place Royale, which occupied the same site as the "Habitation" and formed the original urban core of Lower Town, has been studied by archaeologists and historians for approximately 15 years. The remains of the first houses built in this sector have been found and they are estimated to date back to around 1650.

Traces of early French occupation have also been uncovered in Montréal and Trois-Rivières. Research on these sites has helped to explain how the French colonists adapted to Nouvelle-France, exploited its resources and founded urban settlements that are inhabited to this day.

In view of constant threats to the safety of the colony, the period following its initial settlement was marked by the implementation of a defensive policy. Forts were erected and towns were surrounded by fortification walls. Over the past 15 years, Parks Canada has conducted research on Fort Chambly, Artillery Park, the fortifications of Québec City and the fort at Coteau-du-Lac. Such research has shed light on the adaptation of European military architecture to conditions in Nouvelle-France, lifeways in fortified towns during the British regime, the evolution of the art of warfare, and the socio-economic repercussions of a permanent army.

The seigneurial concessions in the St. Lawrence valley are a characteristic feature of the French regime and reflect the systematic settlement policy pursued during this period. These seigneuries were divided into lots reserved for agricultural purposes. The form and arrangement of these plots of land differed from one region to another, and the rural landscape varied accordingly. For example, in Estrie, which was settled during the British regime, lots were laid out according to a grid plan.

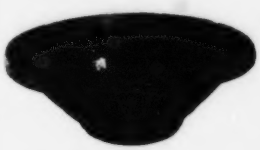
Archaeological work has been done on certain domestic agricultural complexes such as the McCarthy farm, in Saint-Colomban, and île Sainte-Thérèse, in the Montréal area. Excavations on the site of the Lamontagne house in Rimouski have uncovered the remains of outbuildings dating back to the 18th century.

Although archaeological research in this field is still in its infancy, it will eventually be able to answer certain questions left open by historical research and to define, for example, the settlement patterns characteristic of various parts of Québec, as well as the patterns of subsistence — consumption habits, material culture — and modes of exploitation pursued by the people who lived there.

The rural environment was occupied in a variety of ways. Colonists not only built farmsteads, houses, outbuildings and mills, but also founded villages where merchants and craftsmen concentrated their activities and supplied the local population.

Potters rank highly among craftsmen. Approximately 100 potteries have been identified to date in Québec. Archaeology has made it possible to study the pottery made by various artisans, to pinpoint the sources of their raw materials, to delimit the area in which their products were distributed, to understand their techniques, and to determine how they adapted European traditions to life in rural Québec. Archaeological research has been conducted on pottery sites that were in operation during the 18th and 19th centuries in the Saint-Denis-sur-Richelieu area.

Many other sites have been associated with commercial and industrial activities: brickyards, glassworks, charcoal kilns, blacksmith's shops, ironworks, water mills, and wind mills. All such sites are important sources of information.

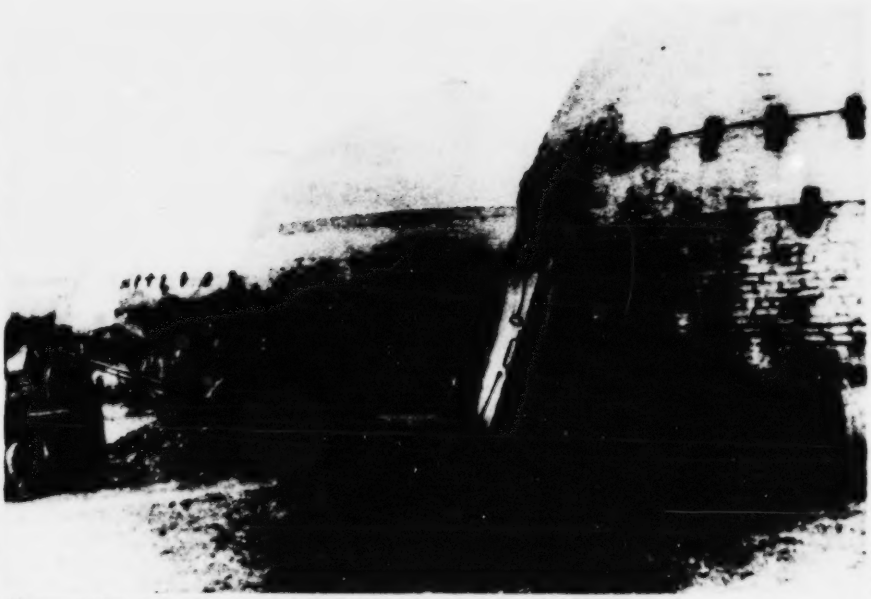


Coarse earthenware bowl. Charles Belleau pottery site, 1855-1889. La Baie near Chicoutimi.

Military insignia, personal hygiene objects and building hardware from the 19th century. Fort Ingall, Cabano.

(photographs: Société historique de Cabano)

Masonry work that supported the steel penstock, 1897-1921. Pulperie de Chicoutimi.



Charcoal kilns dating from around 1880-1900. Forges de Radnor, Mauricie.

(photograph: Archives de l'Université Laval, fonds Malcheiosse)

Archaeological research into our industrial heritage has focused primarily on sites related to the processing of lumber and mineral resources, such as the Pulperie, in the Saguenay-Lac-Saint-Jean area, and the Forges du Saint-Maurice, in Mauricie. The Forges du Saint-Maurice is one of the oldest industrial sites in Québec and was the first industrial village to be centred on iron production. Several seasons of archaeological fieldwork have provided unique data which historical documents were unable to supply and whose analysis has thrown light on commercial activities, the development of technology, and the living conditions of workmen and their families over a period of more than two centuries.

Although research in the field of industrial archaeology has only just begun in Québec, it is very promising in view of the number and variety of sites that make up our industrial heritage.

Finally, mention should be made of underwater archaeology. Once again, the study of shipwrecks, their artifacts and the various installations related to shipping and navigation is still in its early stages in Québec. A number of wrecks lie with their cargo on the bottom of the St. Lawrence River. Sites related to many different activities have been submerged as the water level of numerous lakes and rivers has risen naturally or has been raised artificially.

This brief overview of the main research and discoveries in the field of archaeology over the past 20 years shows how important this discipline is to understanding the history of the various peoples that have inhabited Québec since man first set foot in this area several thousand years ago. It also provides some insight into the enormous potential still to be exploited by both prehistoric and historical archaeology.

ARCHAEOLOGICAL REMAINS are an integral part of our regional, national and international cultural heritage. Constituting direct and tangible links with the past, they should be protected and preserved by society. By their very nature, they are non-renewable and, if disturbed in any way, they can become indecipherable. Limited in number, they disappear as land is developed, a destructive process presently accelerated by the many urban, energy and other projects demanded by modern life.

Archaeological remains are important resources that are valuable for both the present and the future. They have not only aesthetic and economic value, but also symbolic value, as souvenirs of the past, and educational value, as sources of historical data. However, their worth is directly dependent on the social context in which they occur, that is, the presence or absence of a collective desire to protect archaeological heritage.

Approximately 5 000 archaeological sites have been included to date in the inventory of archaeological sites in Québec (ISAQ), stored at the ministère des Affaires culturelles.

Although this figure bears witness to our tremendous heritage, it must not lull us into forgetting the amount of research still to be done. It is estimated that several hundreds of thousands of sites remain to be discovered. In order to preserve known sites and to discover new ones, a policy must be formulated for the management of cultural resources.

THE DEVELOPMENT OF ARCHAEOLOGY IN QUÉBEC

Archaeology started arousing interest in Québec over 100 years ago. From 1860 onward, numerous publications began to appear on curious objets or structures that had been discovered by accident. From the early 20th century up to the end of the 1950s, archaeological research was done primarily by foreign organizations of American, Danish and British origin, by the National Museum of Man in Ottawa, and by certain amateur groups active in the St. Lawrence valley, central Québec and the Ungava area. On the basis of their findings, it was possible to establish that Québec had been occupied by many different peoples in the course of its history and that man had arrived in this area thousands of years ago.

The 1960s witnessed an intensification of archaeological research in Québec; both prehistoric and historic sites were inventoried and excavated. This decade was marked by the creation of institutes, associations and government agencies: for example, the Centre d'études nordiques of Université Laval, the Service d'archéologie of the ministère des Affaires culturelles, and professional and amateur archaeological societies. With the setting up of an anthropology department at the Université de Montréal, professional archaeologists began to be trained in Québec.

The 1970s were characterized by a growing awareness of the need to protect the natural and cultural environment. Laws dealing directly or indirectly with archaeological research were passed, and large-scale research was undertaken during the installation of hydroelectric facilities in the James Bay area and during the construction of roads in Gaspésie and on the Côte-Nord. Extensive research was also carried out in Nouveau-Québec and Labrador as part of the Mushuau Nipi project of Université Laval and the Tuvaaluk project of the Université du Québec à Montréal. Other major archaeological research was done on Fort Chambly, Artillery Park, the fortifications of Québec City, and the Forges du Saint-Maurice within the framework of development projects administered by Parks Canada.

At the ministère des Affaires culturelles, the Direction de l'archéologie et de l'ethnologie, formerly known as the Service d'archéologie, was entrusted with the enforcement of certain sections of the Cultural Property Act (1972 and 1974) concerning the inventory, protection and development of archaeological property and the regulation of excavation work.

The Environment Quality Act, passed in 1978, introduced other measures for the protection of archaeological resources. Within the framework of the environmental impact studies now compulsory prior to the commencement of certain large-scale projects, the ministère des Affaires culturelles is responsible for all heritage matters, including archaeology. A great deal of archaeological work, in the form of archaeological potential studies, surveys, excavations and analyses, was carried out by the Société d'énergie de la Baie James and Hydro-Québec. Such research was conducted primarily in northern Québec. The 1970s also witnessed the setting up of a number of private companies specializing in archaeology and the formation of the Association des archéologues du Québec (AAQ).

"3. *Parameters*: Any environmental impact assessment statement prepared pursuant to section 31.2 of the Act may deal with the following parameters:

(...)
b) a qualitative and quantitative inventory of the aspects of the environment which could be affected by the project, such as the fauna, flora, human communities, the cultural, archaeological and historical heritage of the area..."

(R.S.Q., c.Q-2, r.9, s.3b)

For the James Bay area and Northern Québec:
"5. *Terms*: Any environmental and social impact statement drawn up pursuant to section 160 of the Act, must include at least the following elements (...):

(...)
c) a description of the social milieu, populations in particular (demography, place of residence, ethnic composition), land use (man-made constructions, dwelling-places, public services, roads, known archaeological sites, cemeteries and burial sites), (...);

(R.S.Q., c.Q-2, s.205, r.11, s.5c)

This context promoted the development of archaeological research in areas where little or no work had been done, and was conducive to innovation in the realm of methodology and interpretation.

At the end of 1970s, a policy aimed at regional development was gradually worked out. The Act respecting land use planning and development, passed in 1979, entrusted the municipalities with the task of planning and controlling the exploitation of local resources, including their cultural heritage.

"A development plan must include:

(...)
5° the identification of territories that are of historical, cultural, aesthetic or ecological interest to the regional county municipality;"

(R.S.Q., c.A-19.1, s.5.5)

THE MANAGEMENT OF ARCHAEOLOGICAL RESOURCES AND THE CULTURAL PROPERTY ACT

The Cultural Property Act defines the mandate given to the ministère des Affaires culturelles in regard to the safe-keeping and development of our archaeological heritage. The regulation of archaeological research best illustrates this protective policy. For example, the department is responsible for issuing archaeological research permits (section 35 of the Act), which must be obtained for four types of research: survey, excavation, archaeological monitoring, and archaeological potential studies that involve field work. Anyone who has been granted a permit must prepare an annual report on his activities and comply with specific procedures.

Permit for excavations or surveys:
"**35.** No person may make on an immoveable owned by him or others excavations or surveys to find archaeological property or sites without having previously obtained an archaeological research permit from the Minister, who shall obtain the advice of the Commission."

(R.S.Q., c.B-4, s.35)

Rights of holder:
"**36.** An archaeological research permit authorizes its holder to make excavations or surveys at the places specified therein in accordance with the conditions determined by regulation of the Gouvernement."

(R.S.Q., c.B-4, s.36)

Annual report:
"**39.** The holder of an archaeological research permit must make an annual report of his activities to the Minister in accordance with the terms and conditions determined by the Gouvernement."

(R.S.Q., c.B-4, s.39)

Archaeological research involves special methods, techniques and analyses, and must meet certain standards. It must be carried out by qualified professionals, under the best possible conditions and with sufficient means. If not, both the scientific community and the general public are liable to lose irretrievable information essential to reconstructing their past.

However, we cannot hope to safeguard our archaeological wealth without a protective policy aimed at identifying archaeological sites and property. For this reason, the ministère des Affaires culturelles has been given a mandate to inventory these resources. It has set up a computerized data bank, known as the inventory of archaeological sites in Québec (ISAQ), which contains information on the geographical characteristics of sites, their contents, state of preservation, cultural affiliation, and the type of work done on them. This information is derived from the field work reports which are compulsory under the Act and whose contents are specified in the Regulation respecting archaeological research (section 11). This data is essential to the effective management of archaeological resources.

The Act has also provided for the recognition or classification of certain archaeological property and sites (section 8); these are legal measures that may be applied at the request of specialists, citizens and municipalities.

Since the ISAQ is computerized, it is very flexible and easy to consult. Such features greatly facilitate the task of researchers, promoters required to assess environmental impact under the Environment Quality Act, municipal officials responsible for preparing development plans in accordance with the Act respecting land use planning and development, and government departments whose development projects might affect archaeological resources. It cannot be overly emphasized that projects of this type should not only take into account known archaeological sites; in order to truly preserve and develop our heritage, they must also consider future discoveries and include archaeological potential studies, field surveys and, if necessary, the monitoring of work done in zones with archaeological potential.

The inventory, protection and development of archaeological resources cannot be done unilaterally. It requires the collaboration of all segments of the population. The case of chance discoveries may serve to illustrate this point. Although the Cultural Property Act stipulates that anyone who discovers an archaeological site must inform the ministère des Affaires culturelles without delay (section 40), it cannot ensure the protection of our archaeological heritage by coercive measures alone. Municipalities, citizens' groups and individuals must also bear their full share of responsibility in this regard.

Notice by discoverer:
"**40.** Whoever discovers an archaeological property or site must inform the Minister of it without delay."

(R.S.Q., c.B-4, s.40)

If a person discovers an archaeological site by accident, either on land or under water, he or she should locate it precisely on a map, avoid touching the remains, take photographs if possible, and immediately inform the appropriate regional office of the ministère des Affaires culturelles. The office will send an archaeologist to evaluate the site: its approximate surface area, state of preservation, cultural affiliation, and so forth. If the site is threatened with destruction, the archaeologist will make recommendations on the type of work to be done. The new site will be included in the ISAQ and thereby enhance our regional and national heritage.

Services

What happens to an archaeological site's contents, that is its material remains, those unique documents that constitute tangible evidence of past events? Once they have been excavated, they are often extremely vulnerable and may be damaged beyond repair. For this reason, the ministère des Affaires culturelles also has a mandate to provide the technical means and expertise needed to preserve and develop cultural property and, in particular, archaeological collections. Various services have been set up for this purpose.

The Centre de conservation du Québec makes expert evaluations of objects submitted to it for examination by archaeologists and curators of archaeological collections. Even though some remains have been temporarily protected in the field, they may require additional treatment to ensure their long-term preservation. When necessary, the centre performs physical and even chemical treatments to preserve and restore archaeological objects.

The Laboratoire d'archéologie of the ministère des Affaires culturelles is primarily responsible for the scientific analysis and interpretation of archaeological collections. It also plays a role in disseminating information since it has been entrusted with the task of setting up reference collections and a library specialized in material culture. Anyone working in the field of archaeology may have access to these research tools by requesting permission from the Service du patrimoine.

Once the collections have been treated, studied and interpreted, they are stored at the Réserve des collections, administered by the Service du patrimoine of the ministère des Affaires culturelles. They may then be loaned to various bodies, such as museums or municipalities wanting to set up exhibitions or even universities in need of objects for research purposes.

Main steps in the restoration of a cast-iron cannonball.

THE MINISTÈRE des Affaires culturelles is well equipped to fulfill its mandate of preserving and developing archaeological resources. However, the nature and quality of its efforts are intimately related to the social context in which it operates and to the degree of understanding and appreciation which it receives from the public.

Society has become increasingly interested in conservation over the past few years, judging by the growing number of groups that take part in protecting our archaeological heritage.

Through the environmental impact studies required under the Environment Quality Act, numerous organizations are being encouraged to play a role in preserving and developing archaeological resources: Hydro-Québec, the Société d'énergie de la Baie James, the ministère des Transports, the ministère de l'Environnement, and various private companies. Work done in relation to these studies leads to the discovery of many sites that will enrich the ISAQ and provides information on zones not yet explored by archaeologists.

At the same time, there is a growing desire to rationalize land use planning and to employ human and financial resources more efficiently. For example, the Act respecting land use planning and development has made public a new operational framework: a regional approach that takes local differences into account and provides for the collaboration of all parties active in municipal land use planning.

Since 1980, the ministère de l'Énergie et des Ressources has invited all government departments and agencies, including the ministère des Affaires culturelles, which plan the use of public land to participate in drawing up "public territory land use plans". These plans will play an important role in the preparation of development plans for regional county municipalities.

In accordance with the Act respecting land use planning and development, the regional offices of the ministère des Affaires culturelles are required to provide municipalities and regional county municipalities with financial and technical assistance, especially when it comes to identifying heritage resources and, in particular, archaeological property. For this purpose, they have prepared short informative documents intended to facilitate the integration of archaeological concerns into development plans.

The assistance provided by the department may also take the form of collaboration with any of the various bodies active within the territory of Québec. The Société québécoise d'assainissement des eaux and the municipalities of Desbiens and Chambord entered into an agreement with the department for the purpose of conducting an archaeological survey at the mouth of the rivière Métabetchouan. Some municipalities and regional county municipalities in Outaouais (Val-des-Monts, Vallée-de-la-Gatineau) have

had archaeological potential studies done within their territory. Far from being restricted areas, zones with potential constitute a sort of archaeological reserve and may be integrated into recreational areas and parks.

Collaboration at the municipal level primarily involves concluding agreements on the development of archaeological resources. For example, the agreement reached between the ministère des Affaires culturelles and the City of Montréal has made it possible to carry out archaeological research in Old Montréal, organize exhibitions and prepare publications. An Iroquoian habitation site has been discovered as a result of an agreement concluded with the Ville de La Prairie to do salvage excavation on a construction site. And an interpretation centre has been set up at Pointe-du-Buisson with the help of the Municipality of Melocheville.

In addition, more and more students and amateurs are participating in archaeological research under the supervision of professionals in Grandes-Bergeronnes, Old Montréal, on the Basse-Côte-Nord, and elsewhere.

The ministère des Affaires culturelles collaborates with private groups such as the Avataq Cultural Institute, the Conseil Attikamek-Montagnais and the Cree Regional Authority, providing them with financial assistance through its regional offices. As a result, these Native organizations are able to conduct their own archaeological research. In addition, the department works closely with various organizations, including the Société d'histoire et d'archéologie de Coteau-du-Lac, the Antiquarian and Numismatic Society of Montreal, the Société historique du canton de Brest, the Association des archéologues du Québec and the Conseil des monuments et sites du Québec.

The department is also active at the interdepartmental level, participating in projects that are not subject to the Environment Quality Act, but that nevertheless pose a threat to archaeological resources. It has collaborated on several occasions with the ministère de l'Agriculture, des Pêcheries et de l'Alimentation, and with the ministère du Loisir, de la Chasse et de la Pêche, which would like to make archaeology an integral part of the development projects prepared for its parks.

Finally, the regional offices of the ministère des Affaires culturelles are active in the sphere of education, collaborating with several universities: the Université du Québec à Montréal and the Université du Québec à Chicoutimi, on the field school at Grandes-Bergeronnes; Université Laval, on the site of the Intendant's Palace in Québec City; and the Université de Montréal, on the field school at Pointe-du-Buisson.

Undeniably, tremendous progress has been made in Québec in the field of archaeology over the past 20 years. Universities now train specialists, professional archaeologists have formed associations, and technical and material resources have been rationalized. Moreover, the government has passed laws and set up central and regional services in an effort to ensure the preservation of the material remains that constitute our cultural heritage.

However, no government measures can ever replace a society's curiosity about the past and, in particular, its desire to shed light on its origins. Let it be hoped that this interest will continue to grow, spurred by the results obtained to date and by the tremendous wealth yet to be discovered.

FURTHER READING

The purpose of this section is to present a few books, articles, monographs and audiovisual documents on archaeology and its methods, and on cultural evolution in northeastern America and, particularly, in Québec. It also includes a list of several journals and collections that have devoted articles or entire issues to archaeology.

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James Bay, 5 000 Years of History, 16-mm film, 28 minutes, 1982.

RADIO-QUÉBEC ESTRIE AND THE MINISTÈRE DES AFFAIRES CULTURELLES
Terre et mémoire, 16-mm film and videocassette, 55 minutes, 1983.

VIDÉANTHROP
Les techniques de fouille d'un site préhistorique, 80 commented slides, Montréal, Vidéanthrop Inc., 1979.

Les Iroquoïens: premiers agriculteurs du Nord-Est, slide presentation, 11 minutes, Montréal, Vidéanthrop Inc., 1974.

Préhistoire des habitants du Québec arctique, slide presentation, 11 minutes, Montréal, Vidéanthrop Inc., 1979.

JOURNALS

Anthropologie et Sociétés
Archéologia
Dossiers de l'archéologie
Études/Inuit/Studies
La Recherche
Recherches amérindiennes au Québec
Science et Avenir
Scientific American
The Beaver

COLLECTIONS

Canadian Historic Sites: Occasional Papers in Archaeology and History
Indian and Northern Affairs Canada

Civilisation du Québec
Ministère des Affaires culturelles

History and Archaeology
Parks Canada

Les Cahiers du patrimoine
Ministère des Affaires culturelles

Les Dossiers du patrimoine
Ministère des Affaires culturelles

Les Retrouvailles
Ministère des Affaires culturelles

Mercury Series
National Museum of Man

Paléo-Québec
Université du Québec à Trois-Rivières and Université du Québec à Montréal.

GLOSSARY

Amino acid racemization:

This very recent dating method is precise, but fairly complex. It is based on the fact that the 20 amino acids making up the protein in living organisms are levogyrate, that is they bend light to the left. An amino acid sample taken from a living organism will tend to become optically inactive: this reaction is racemization. By knowing the racemization rate of one of the amino acids contained in an archaeological object and by measuring its rotation, it is possible to discover the age of the object.

Archaeomagnetism:

Dating method based on variations in the Earth's magnetic field over the centuries. Since eruptive rocks and baked clay fossilize the magnetic field on cooling, they can be used to establish chronologies. Good results can be obtained by employing this method in conjunction with other methods such as carbon-14 and potassium-argon dating.

Botany:

Science that deals with plant life.

Calibration:

Determination of the average amount of radioactivity present in samples taken from the modern-day environment for the purpose of drawing comparisons with the amount occurring in archaeological samples.

Carbon-14 (^{14}C):

Best known and most commonly applied method of dating in archaeology. It is used only on organic, carbon-bearing material. After an organism dies, it takes approximately 5 730 years for half of the radioactive particles it contains to disintegrate, another 5 730 years for half of the remainder to disintegrate, and so on. Carbon-14 activity can be determined for time zero, set according to convention at 1950 A.D., by measuring the amount of radioactivity present in existing carbonaceous material. This amount may then be compared with that remaining in a sample of "dead" carbonaceous material. By determining the ratio between the two, it is possible to calculate the amount of time that has elapsed since "death". This method is accurate to within 100 to 500 years.

Dates:

They may be relative or absolute. In both cases, valid dates may be obtained only if the remains on which they are based have not been disturbed. Relative dates refer to the stratigraphic position of archaeological remains. Absolute dates are precise ages that may be attributed to certain objects or features with the help of physicochemical techniques.

Dates may be expressed in several ways:

4 500	**B.P. (before present)**	**means 4 500 years before present (before 1950)**
	A.A. (avant aujourd'hui)	
3 200	**B.C. (before Christ)**	**means 3 200 years before Jesus Christ**
	av. J.-C. (avant Jésus-Christ)	
1 200	**A.C. (after Christ)**	**means 1 200 years after Jesus Christ**
	A.D. (Anno Domini: in the year of our Lord)	
	ap. J.-C. (après Jésus-Christ)	

Dendrochronology:

Dating method based on the analysis of the growth rings of trees. Within a given region, trees of the same species will be affected by climatic conditions in the same way. All individuals will have the same growth rate and, therefore, the same number of concentric rings. Since a new ring is added each year, scientists may correlate the rings of a dead tree with those of a living one: the most recent rings of the first will correspond to the oldest rings of the second.

Drainage basin:

Entire tract of land that is supplied and drained by a course or body of water.

Ecology:

Study of the interaction and interrelationship of living organisms and their organic and inorganic environment.

Ecoregion:

Large ecological unit or zone with the same types of vegetation throughout.

Flotation:

Recovery technique based on the principle that the density of plant remains and bone is often less than that of water. It uses a slow stream of water to separate the ecofacts from their surrounding matrix and make them float.

Geology:

Science that deals with the composition, structure and evolution of the Earth, as well as with the processes that take place within its gaseous, liquid and rocky envelopes.

Geomorphology:

Science that deals with landforms, their formation and evolution.

Grid:

Arbitrary horizontal network of lines used to divide the area enclosing an archaeological site into squares. Some of these lines are marked with string. The size of the squares depends on the nature of the site, density of remains, and so forth. Since the location of artifacts can be recorded within each square, it is possible to reconstruct the spatial distribution of remains.

Obsidian hydration:

Precise dating method applicable only to objects made of vitrified material (obsidian, glass). It consists in measuring the amount of water these objects have absorbed. Since a given type of glass has a fixed rate of hydration, the depth to which moisture can be detected in the object under study is indicative of its age.

Palynology:

Science that deals with pollen in general and, in particular, with pollen remains found in sediments.

Pedology:

Science that deals with soil, its formation and development.

Petrography:

Science that deals with rocks, their mineralogical and chemical composition, physical properties and formation.

Potassium-argon:

Dating method widely used in geology. It consists in measuring the amount of radioactive potassium (K-40) left in a substance. Potassium-40 releases argon very slowly when it decays. This process may continue for up to two to three million years.

Screening:

Technique for recovering archaeological remains, consisting in separating finer elements from coarser ones with the help of screens.

Sedimentology:

Science that deals with the composition of sediments and their relationship with the environment in which they were formed.

Soil matrix:

Soil which contains archaeological elements. This soil has specific characteristics which must be identified in order to distinguish between natural elements and elements related to human occupation.

Tectonics:

Study of the movements that determine the Earth's structure: for example, all uplift or subsidence of the Earth's crust producing folds, block slides, cracks, and faults.

Test pit:

Exploratory excavation dug to sample a site and thereby verify the presence or absence of buried archaeological remains.

Thermoluminescence:

Some of the atoms of the minerals in clay undergo changes when they are heated. Since this phenomenon produces light, it has been called thermoluminescence. It is possible to date an archaeological layer by studying the natural thermoluminescence of the potsherds and burned rock it contains. The intensity of the light emitted by these elements is proportional to the time that has elapsed since they were last heated.

Trade:

System that grew up in the 17th century between the Native peoples and European merchants of Nouvelle-France whereby manufactured goods were exchanged for hunting and trapping products.

Typology:

Classification method designed to group archaeological objects according to significant combinations of attributes (form, function, technology, material, etc.).

Unconsolidated deposits:

(or sediments) All material which is transported and then deposited.

Zoology:

Branch of natural science that deals with animals, their anatomy, physiology and evolution.

ARCHAEOLOGICAL TRAINING IN QUÉBEC UNIVERSITIES

McGill University
Department of Anthropology
855, rue Sherbrooke Ouest
Montréal (Québec)
H3A 2T7

Université de Montréal
Département d'anthropologie
Case postale 6128, succursale A
Montréal (Québec)
H3C 3J7

Université du Québec à Chicoutimi
Département des études amérindiennes
555, boulevard de l'Université
Chicoutimi (Québec)
G7H 2B1

Université du Québec à Montréal
Bureau du registraire
1255, rue Saint-Denis, R-750
Case postale 8888, succursale A
Montréal (Québec)
H3C 3P8

Université du Québec à Trois-Rivières
Bureau du registraire
Case postale 500
Trois-Rivières (Québec)
G9A 5H7

Université Laval
Bureau du secrétaire général
Pavillon Bonenfant
Québec (Québec)
G1K 7P4

WHERE DO ARCHAEOLOGISTS WORK IN QUÉBEC?

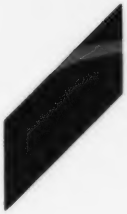
In paragovernmental and government agencies:
- Hydro-Québec
- Ministère des Affaires culturelles du Québec
- Ministère des Transports du Québec
- Parks Canada

In Native organizations:
- Avataq Cultural Institute
- Conseil Attikamek-Montagnais
- Cree Regional Authority

In educational institutions:
- McGill University, Montréal
- Université de Montréal
- Université du Québec à Chicoutimi
- Université du Québec à Montréal
- Université du Québec à Trois-Rivières
- Université Laval, Québec
- Some Cegeps

In the private sector:
- Firms specialized in archaeology
- Firms specialized in land use planning

Many consulting archaeologists are hired to work on special projects by the various organizations listed above and by municipalities.



ASSOCIATIONS AND ORGANIZATIONS ACTIVE IN ARCHAEOLOGY IN QUÉBEC

- Association des archéologues du Québec (AAQ)
- Canadian Archaeological Association (CAA)
- Conseil des monuments et sites du Québec (CMSQ)
- Fédération des sociétés d'histoire du Québec (FSHQ)
- Heritage Canada
- Société d'archéologie de la Nouvelle-France (SANF)

USEFUL ADDRESSES

FINANCIAL AND TECHNICAL ASSISTANCE CHANCE DISCOVERIES

Ministère des Affaires culturelles: Regional offices

Direction régionale de l'Est-du-Québec
Ministère des Affaires culturelles
337, rue Moreault
Rimouski (Québec)
G5L 1P4
Tel. (418) 722-3650

Direction régionale du Saguenay – Lac-Saint-Jean
Ministère des Affaires culturelles
930, rue Jacques-Cartier Est
Chicoutimi (Québec)
G7H 2B1
Tel. (418) 549-9535

Direction régionale de Québec
Ministère des Affaires culturelles
225, Grande-Allée Est
Rez-de-Chaussée, Bloc C
Québec (Québec)
G1R 5G5
Tel. (418) 643-4594

Direction régionale de la Mauricie – Bois-Francs
Ministère des Affaires culturelles
100, rue Laviolette
Trois-Rivières (Québec)
G9A 5S9
Tel. (819) 374-6205

Direction régionale de l'Estrie
Ministère des Affaires culturelles
740, rue Galt Ouest
Sherbrooke (Québec)
J1H 1Z3
Tel. (819) 565-1753

Direction régionale de Montréal
Ministère des Affaires culturelles
454, place Jacques-Cartier
Montréal (Québec)
H2Y 2B3
Tel. (514) 873-5101

Direction régionale de l'Outaouais
Ministère des Affaires culturelles
170, rue de l'Hôtel-de-Ville
Édifice Jos-Montferrand
Hull (Québec)
J8X 4C2
Tel. (819) 770-2118

Direction régionale de l'Abitibi-Témiscamingue
Ministère des Affaires culturelles
1, 9e Rue
Noranda (Québec)
J9X 2A9
Tel. (819) 762-6517

Direction régionale de la Côte-Nord
Ministère des Affaires culturelles
625, boulevard Laflèche
Baie-Comeau (Québec)
G5C 1C5
Tel. (418) 589-6979

Direction régionale du Nouveau-Québec
Ministère des Affaires culturelles
225, Grande Allée Est
2e étage, Bloc B
Québec (Québec)
G1R 5G5
Tel. (418) 643-7658

PERMIT APPLICATIONS LOAN OF COLLECTIONS

Service du patrimoine
Ministère des Affaires culturelles
225, Grande Allée Est
2e étage, Bloc C
Québec (Québec)
G1R 5G5
Tel. (418) 643-7044

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Antiquarian and Numismatic Society of Montreal
Archéotec Inc.
Cérane Inc.
City of Chicoutimi
City of Montréal
City of Trois-Rivières
Conseil Attikamek-Montagnais
Corporation du Bourg de Pabos
Cree Regional Authority
Hydro-Québec
McGill University
Ministère des Transports du Québec
Municipality of the Côte-Nord du golfe Saint-Laurent
Musée du Bas-Saint-Laurent
Musée des Sept-Îles
National Museum of Man
Recherches amérindiennes au Québec
Société d'énergie de la Baie James
Société historique de Cabano
Université du Québec à Chicoutimi
Université du Québec à Montréal
Université Laval
Vidéanthrop Inc.

The illustrations in this brochure have been taken from research reports which are available for consultation in the libraries of the ministère des Affaires culturelles and of the various organizations involved in archaeological research.

This brochure is intended for all those who are interested in cultural heritage and for organizations which, in ever increasing numbers, are taking part in preserving, interpreting and managing archaeological resources.